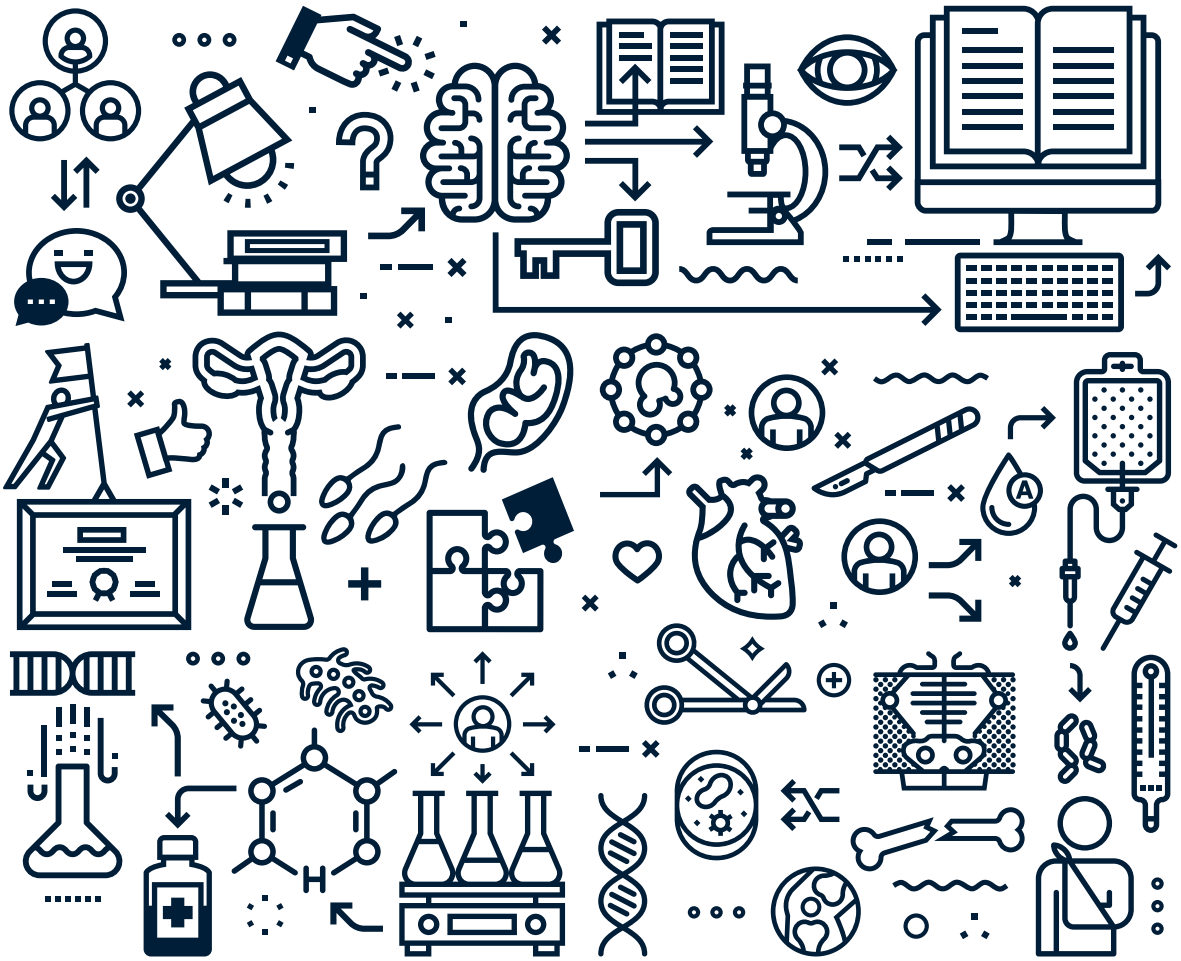

ABSTRACTBOG

Forskningssymposium

En portefølje af sundhedsfaglig forskning og udvikling ved Regionshospital Nordjylland

14. november 2019

CKF CENTER FOR KLINISK FORSKNING Regionshospital Nordjylland
AALBORG UNIVERSITET
REGIONSHOSPITAL NORDJYLLAND – i gode hænder

Forord

Igen i år byder Center for Klinisk Forskning velkommen til afholdelse af det årlige forskningssymposium ved Regionshospital Nordjylland (RHN). Det bliver det fjerde symposium i rækken, siden symposiet blev afholdt for første gang i 2016.

RHN Forskningssymposium er således gået hen og blevet en tilbagevendende begivenhed i november måned, der på fornemmeste vis demonstrerer den mangfoldighed af forskning og udviklingsprojekter, der udfolder sig på regionshospitalet i regi af de forskellige afdelinger og Center for Klinisk Forskning.

Forskning og udvikling på RHN udmærker sig ved, at der i høj grad samarbejdes på tværs af specialer og faggrupper. Denne unikke konstellation sikrer en solid grobund for en berigende udveksling af idéer, perspektiver og metoder. Med disse elementer i samspil understøttes en række forskellige processer, der på mere optimal vis skaber et væsentligt momentum af innovativ synergi.

Forskningssymposiet har som sin klare mission at åbne dørene for at medarbejdere ved RHN og øvrige gæster udefra kan få et indblik i det forskning og udviklingsunivers, som huset på stort og småt med stolthed må siges at rumme.

Forskning og udvikling er et samlet prioriteret indsatsområde ved RHN, da disse aktiviteter er med til at bidrage med vigtig ny viden og evidensbaseret læring til gavn for patienterne, ligesom at aktiviteterne tjener et formål i forhold til understøtte RHNs målsætning om talentudvikling.

I forbindelse med RHN Forskningssymposium er der på vanlig vis redigeret en abstractbog, der indeholder de 42 tilmeldte abstracts og de tilsvarende posters. I denne forbindelse vil jeg gerne på vegne af organisationskomitéen takke Mette Henriksen ved hospitalsledelsens stab for en formidabel hjælp med opsætning af abstractbogen og tillige med kreation af mange af symposiets flotte posters. Endvidere en stor tak til Lotte Kvist Moss ved Center for Klinisk Forskning for at koordinere og udføre et væld af forskellige opgaver i forbindelse med planlægning og afholdelse af symposiet.

Med ønsket om en god og udbytterig deltagelse i RHN Forskningssymposium 2019!

Peter Leutscher, Professor
Center for Klinisk Forskning, Regionshospital Nordjylland &
Klinisk Institut, Aalborg Universitet

Indholdfortegnelse

Program for RHNs Forskningssymposium

Torsdag den 14. november 2019 – Skou Auditoriet
Regionshospital Nordjylland, Bispensgade 37, 9800 Hjørring

13.00-13.05 **Velkomst v/professor, overlæge Peter Derek Christian Leutscher**
Center for Klinisk Forskning, RHN

13.05-13.15 **Velkomst v/prodekan Ole Kæseler Andersen**
Det Sundhedsvidenskabelige Fakultet

13.15-13.45 **Orale præsentationer 1**
Incident Rheumatoid Arthritis in Danish and Turkish patients – a comparative clinical and serologic study v/Asta Linauskas, Reumatologisk Afdeling, RHN

Associations of health literacy with health-related quality of life: A combined register- and survey-based cross-sectional population study v/Majbritt Tang Svendsen, Kardiologisk Afdeling, RHN

Patients exposed to increased ionizing radiation due to repeated computed tomography scans - a retrospective study in the North Denmark Region v/Thomas Hessellund, Radiologisk Afdeling, RHN

13.45-13.50 **Pause**

13.50-14.20 **Orale præsentationer 2**
Aiming to treat Scistosoma haematobium induced lesions in the cervix more efficiently – a randomized controlled trial in Madagascar v/Kristina Kæstel Aarøe, Gynækologisk/Obstetrisk Afdeling, RHN

Influenza vaccination response in immunosuppressed rheumatic disease patients: a cohort study v/Prabhat Kumar, Reumatologisk Afdeling, RHN

Når lægen selv skriver journalen – afprøvning af nyt journal koncept med hybrid af klik- og tekst felter v/Dorthe Brønnum, Center for Klinisk Forskning, RHN

14.20-15.00 **Pause**
Alle deltagere bevæger sig over i Glasgangen, hvor der vil blive serveret kaffe/te, og hvor det er muligt at studere postere og tale med forskere inden poster walk

15.00-15.45 **Poster walk**

15.45-15.55 **Uddeling af priser**

15.55-16.00 **Afslutning**

Reumatologi

1. Cardiovascular disease as risk factor for rheumatoid arthritis – a Danish follow-up study

Asta Linauskas[1,2], Annette de Thurah[2,3], Martin B Johansen[4], Kristian Stengaard-Pedersen[2,3] and Kim Overvad[5]

1. Department of Rheumatology, North Denmark Regional Hospital, Hjoerring, Denmark
2. Department of Rheumatology, Aarhus University Hospital, Denmark
3. Department of Clinical Medicine, Aarhus University, Denmark
4. Unit for Clinical Biostatistics, Aalborg University Hospital, Denmark
5. Department of Public Health – Epidemiology, Aarhus University, Denmark

Background
Atherosclerosis is a systemic inflammatory condition. Therefore, we hypothesize that atherosclerosis is associated with subsequent development of chronic inflammatory disease.

We aimed to examine the risk of rheumatoid arthritis (RA) in persons who have had cardiovascular disease (CVD), defined as acute myocardial infarction or ischaemic stroke.

Methods
A population-based cohort study among 55,037 persons enrolled into the Danish Diet, Cancer and Health cohort. Persons who developed CVD and/or RA were identified through linkage with the Danish National Patient Registry. The relationships between the development of CVD and RA were assessed using Cox proportional hazards regression models, stratifying by sex and adjusting for baseline shared risk factors.

Results
During a median follow-up of 20.2 years a total of 2,935 men and 1,692 women developed CVD, and 158 men and 358 women developed RA. In women, being CVD-exposed was associated with a higher risk of RA (HR 1.30; 95% CI 0.70-2.38). In men with previous CVD there was a tendency towards a lower risk of RA (HR 0.73; 95% CI 0.34-1.58). Being RA-exposed was associated with a higher risk of CVD (HR for males 1.17; 95% CI 0.66-2.53 and HR for females 1.25; 95% CI 0.80-1.95). Not all associations were statistically significant.

Conclusion
There was a tendency towards a higher risk of RA in women with previous CVD and towards a higher risk of CVD in patients with RA. The associations between CVD and RA attenuated, but did not disappear, when adjusting for the shared risk factors, indicating direct causation.

CARDIOVASCULAR DISEASE AS A RISK FACTOR FOR THE DEVELOPMENT OF RHEUMATOID ARTHRITIS – A DANISH FOLLOW-UP STUDY

Asta Linauskas[1,2], Annette de Thurah[1,3], Martin Berg Johansen[4], Kristian Stengaard-Pedersen[1,3], Kim Overvad[5]

[1]Department of Rheumatology, Aarhus University Hospital, Denmark, [2] Department of Rheumatology, North Denmark Regional Hospital, Denmark, [3]Institute of Clinical Medicine, Aarhus University, Denmark,

[4]Unit of Clinical Biostatistics, Aalborg University Hospital, Denmark, [5]Section for Epidemiology, Department of Public Health, Aarhus University, Denmark

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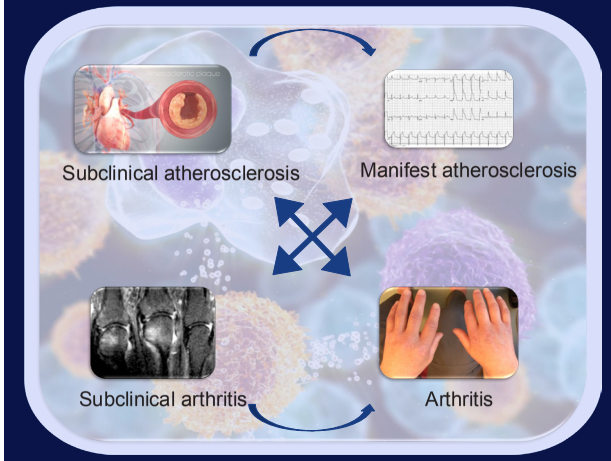


Background

- Patients with rheumatoid arthritis (RA) have higher risk for development of atherosclerotic cardiovascular diseases (CVD) than the general population (1).
- Atherosclerosis is an inflammatory condition (2) and the cellular interactions in atherogenesis are similar to those seen in chronic inflammatory diseases (3).
- We hypothesized that increased vascular permeability and disbalance in the immune system due to the systemic sclerosis might play a role in the development of RA.

Aim

- **To examine the risk of developing RA in persons who have had CVD, defined as acute myocardial infarction (AMI) or ischaemic stroke while controlling for established shared**

Acknowledgements

We would like to thank the steering committee of the Danish Diet, Cancer and Health cohort study, giving us the opportunity to conduct the present study, the participants of the cohort study, lab technicians for the data collection, programmer Katja Boll for the preparation of the dataset, and financial supporters of our study.

Conclusions

- **Women with previous CVD had a tendency towards higher risk of developing RA than women without CVD.**
- **Male gender was not associated with the subsequent development of RA, possibly related to small sample size.**

Methods

- Population-based prospective cohort study, conducted within the Danish Diet, Cancer and Health cohort.
- CVD and RA cases identified linking data with the Danish National Patient Registry.
- The participants were followed until development of RA, death, loss to follow-up, or October 2016, whichever came first.
- The associations between CVD and incident RA assessed using Cox proportional hazards regression models stratifying by gender and adjusting for known and potential confounders and shared risk factors.

The association between cardiovascular disease and the risk of rheumatoid arthritis among the participants of the Danish Diet Cancer and Health cohort

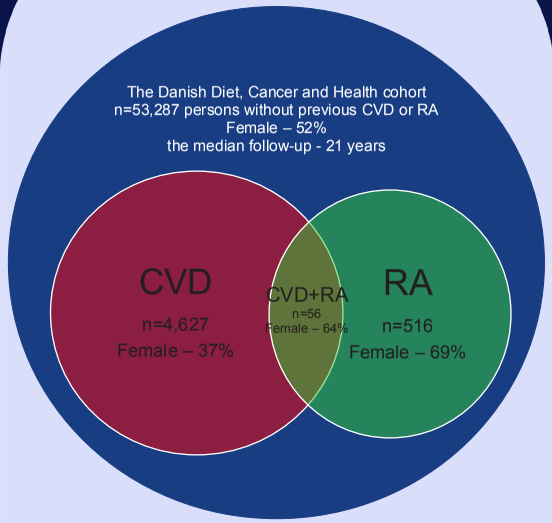
	Cox proportional Hazard Ratio`s (95% confidence interval)			
	Male RA cases		**Female RA cases**	
	n = 151 in CVD non-exposed group n = 7 in CVD exposed group		n= 347 in CVD non-exposed group n = 11 in CVD exposed group	
	Age-adjusted	Age-, smoking-, BMI- and WC-adjusted*	Age-adjusted	Age-, smoking-, BMI- and WC-adjusted*
CVD non-exposed	1 (ref.)	1 (ref.)	1 (ref.)	1 (ref.)
CVD exposed	0.79 (0.37-1.69)	**0.73 (0.34-1.58)**	1.53 (0.83-2.81)	**1.30 (0.70-2.38)**

RA – rheumatoid arthritis, CVD – cardiovascular disease (acute myocardial infarction or stroke), BMI – Body Mass Index, WC – waist circumference. *Adjusted for age, smoking (status, duration, tobacco g/day), BMI (kg/m²), WC

Funding

- The Danish Cancer Society
- The Danish Rheumatism Association
- The Danish Heart Foundation
- Central Denmark Region
- North Denmark Regional Hospital
- Scandinavian Rheumatology Research Foundation

Results



- No major differences in baseline characteristics between the total cohort and RA cases
- The median age at the entry into the cohort – 56 years
- The median age at RA onset – 68 years
- The median (10^{th} – 90^{th} %ile) time to RA onset for the whole cohort – 10.8 (1.2-18.4) years
- The median (10^{th} – 90^{th} %ile) time from the CVD onset to the development of RA in the CVD-exposed group 4.7 (1.3-14.1)

References

[1] Avina-Zubieta et al. Risk of incident cardiovascular events in patients with rheumatoid arthritis: A meta-analysis of observational studies. Ann Rheum Dis. 2012;71(9):1524–9.
[2] Gisterå A, Hansson GK. The immunology of atherosclerosis. Nat Rev Nephrol 2017;13(6):368–80.
[3] Skeoch S, Bruce IN. Atherosclerosis in rheumatoid arthritis: is it all about inflammation? Nat Rev Rheumatol

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Aarhus University Hospital

2. Incident Rheumatoid Arthritis in Danish and Turkish patients – a comparative clinical and serologic study

Asta Linauskas[1,2], Claus Rasmussen[3], Gercek Can[4], Fatos Onen[5], Lene Dreyer[6,7], Rudi Steffensen[8], Niels Steen Krogh[9], Ediz Dalkılıç[10], Nevsun Inanc[11], Servet Akar[12], Nurullah Akkoc[13]

1. Department of Rheumatology, North Denmark Regional Hospital, Hjoerring, Denmark
2. Department of Rheumatology, Aarhus University hospital, Denmark
3. DANBIO, Aalborg University, Denmark
4. Faculty of Medicine, Department of Internal Medicine, Division of Rheumatology, Dokuz Eylul University, Izmir, Turkey
5. School of Medicine, Division of Rheumatology, Dokuz Eylul University, Izmir, Turkey
6. Department of Rheumatology, Aalborg University Hospital, Denmark
7. Department of Clinical Medicine, Aalborg University, Denmark
8. Department of Clinical Immunology, Aalborg University Hospital, Denmark
9. Zitelab, DANBIO, Aalborg University, Denmark
10. Uludağ University, Bursa, Turkey
11. Faculty of Medicine, Division of Rheumatology, Marmara University, Istanbul, Turkey
12. Ataturk training and Research Hospital/Izmir Katip Celebi University, Faculty of Medicine, Ankara, Turkey
13. Clat Bayar Universit, Division of Rheumatology, Department of Internal Medicine, Manisa, Turkey

Background
Some studies indicate that rheumatoid arthritis (RA) phenotype differ between the populations with less severe RA in southern countries.

We aimed to compare the clinical, serologic expression and smoking status of incident RA in two different populations in standardized manner.

Method
Data on incident RA patients fulfilling EULAR/ACR 2010 classifications criteria for RA were collected at Rheumatology Departments in Denmark and Turkey in 2015-2016. Patients were assessed using the same standardized protocol in both populations. Unpaired two-sample t-test was applied to compare the characteristics.

Results
A total of 109 incident RA patients from Denmark and 114 incident RA patients from Turkey were enrolled. The median age and disease activity measured by DAS28 at the diagnosis were statistically significant higher in Danish patients (age - 60 years; DAS28 - 4.7) than in Turkish patients (age - 52 years; DAS28 – 4.3). There was no difference in seropositivity status or smoking habits.

Conclusion
Turkish patients were younger and had lower disease activity at the time of diagnosis than Danish RA patients. Further analyses are needed to reveal possible explanations of the phenotype differences.

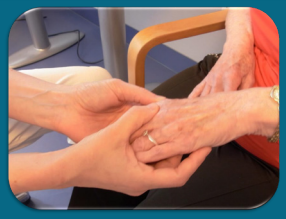
Incident Rheumatoid Arthritis in Danish and Turkish patients

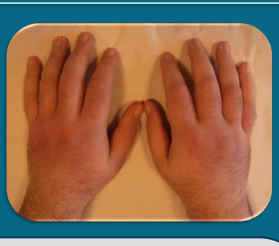
Linauskas A[1,2], Rasmussen C[1,2,3], Can G[4,5], Onen F[6,5], Dreyer L[7,2,3], Steffensen R[8], Krogh NS[9,2], Dalkilic E[10,5], Inanc C[11,5], Akar S[12,5], Akkoc N[13,5]

[1] Department of Rheumatology, North Denmark Regional Hospital, Hjørring, Denmark, [2] DANBIO, Denmark [3] Department of Clinical Medicine, Aalborg University, Denmark, [4] Dokuz Eylul University, Faculty of Medicine, Department of Internal Medicine, Division of Rheumatology, Turkey, [5] TURKBIO, Turkey, [6] Dokuz Eylul University School of Medicine, Division of Rheumatology, Turkey, [7] Department of Rheumatology, Aalborg University Hospital, [8] Department of Clinical Immunology, Aalborg University Hospital, Denmark, [9] ZITELAB, Denmark, [10] Uludağ University, Turkey, [11] Marmara University, Faculty of Medicine, Division of Rheumatology, Istanbul, Turkey, [12] Ataturk training and research hospital/ Izmir Katip Celebi University Faculty of Medicine, Turkey, [13] Department of Internal Medicine, Division of Rheumatology, Celal Bayar University, Manisa, Turkey

DANBIO
DANSK REUMATOLOGISK DATABASE

TÜRKBİO
TÜRK ROMATOLOJİ VERİTABANI



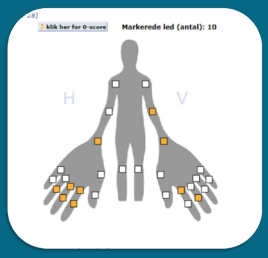


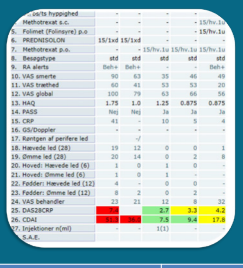
Background

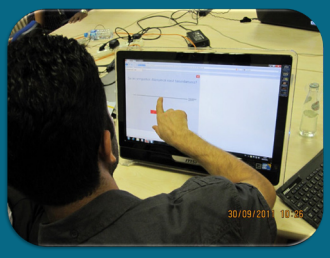
- Rheumatoid arthritis (RA) is a systemic autoimmune disease characterized by joints` inflammation, deformity, fatigue leading to disability and several co-morbidities.
- Some previous studies indicate that RA phenotype differ between the populations with less severe RA in southern countries.

Aim

- to compare the clinical, serologic expression and smoking status of incident RA in two different populations in standardized manner.







Methods

- Incident RA patients fulfilling EULAR/ACR 2010 classifications criteria for RA.
- Rheumatology Departments in Denmark and Turkey in 2015-2016.
- Patients assessed using the same standardized protocol in both populations.
- Unpaired two-sample t-test was applied to compare the characteristics.

Conclusion

- Turkish patients were younger and had lower disease activity measured by DAS28 at the time of diagnosis. Further studies are planned for further investigations.

Results	Danish patients N=109	Turkish patients N=114	P-value
Age at diagnosis, years	**60 (49-69)**	**52 (43-64)**	**0.003**
Never smoker, %	43	44	0.98
Current smoker, %	29	25	0.54
VAS pain	**45 (28-66)**	**60 (41-72)**	**0.01**
Swollen joint count (0-28)	**7 (4-11)**	**3 (1-6)**	**<0.00001**
Tender joint count (0-28)	**7 (3-11)**	**5 (2-8)**	**0.04**
DAS28	**4.7 (4.1-5.5)**	**4.3 (3.3-5.2)**	**0.01**
IgM RF positive, %	70	66	0.58
ACPA positive, %	63	75	0.1

Medians (interquartile range) for continuous variables. VAS – Visual Analog Scale, DAS28 - Disease Activity Score 28 joints, RF – Rheumatoid Factor, ACPA - Anti-Citrullinated Protein Antibodies.

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DENMARK

3. Pain and gait adaptations after one-month use of a custom-made foot orthotics for patients with Rheumatoid arthritis - Preliminary results

Morten Bilde Simonsen[1,2], Ketill Næsborg-Andersen[1], Peter Derek Christian Leutscher[1], Kim Hørslev-Petersen[3], Michael Skipper Andersen[4] and Rogerio Pessoto Hirata[2]

1. Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark
2. Center for Sensory-Motor Interaction (SMI®), Department of Health Science and Technology, Aalborg University, Denmark
3. King Christian 10th Hospital for Rheumatic Diseases, University of Southern Denmark, Graasten, Denmark
4. Department of Materials and Production, Aalborg University, Denmark

Background
Rheumatoid arthritis (RA) is an autoimmune disease often causing foot problems and pain. Over 85% of patients with RA experience painful feet and ankles during the course of the disease. With the intention to reduce pain, stabilize and re-align the foot, foot orthotics (FO) are often prescribed as a supplemental conservative treatment to patients with RA.

The aim of this study is to investigate if any biomechanical adaptation or pain reduction occurs after one-month use of a custom-made FO, for patients with RA.

Methods
18 out of 30 patients with RA have completed the study. The experiment took place over two months. The first month was a sham period, where patients were instructed to use a flat pair of insoles. In the second month, the patients instructed to use the custom-made FO.
The experiment consisted of three sessions (baseline, after sham period and after FO treatment). Pain assessment was performed at all visits consisting of VAS scales (0-100) and body charts. Further, gait analysis was performed before and after FO treatment using an eight-camera infrared Qualisys system and force plates.

Results
Foot pain intensity decreased from 48.4±23 mm at baseline (50.4±24 mm after sham period) to 30.7± 23 mm after one-month FO treatment. For gait parameters was e.g. the ankle peak plantar flexion angle and torque reduced with the FO.

Conclusion
The FO used in this project reduces foot pain in patients with RA. Further, these preliminary results also suggests altered walking mechanics with usage of the FO.

Pain and gait adaptations after one-month use of a custom-made foot orthotics for patients with Rheumatoid arthritis - Preliminary results

*MB Simonsen[1,2], K Næsborg-Andersen[2], P Leutscher[2,] K Hørslev-Petersen[3], MS Andersen[4], RP Hirata[1],

[1]SMI,Department of Health Science and Technology, Aalborg University, Denmark, [2]Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark,[3] King Christian 10th Hospital for Rheumatic Diseases, Graasten, Denmark , [4]Department of Materials and Production, AAU

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1

Over 85% of patients with Rheumatoid arthritis experience painful feet and ankles during the course of the disease

- With the intention to reduce pain, stabilize and re-align the foot, insoles are often prescribed as a supplemental conservative treatment
- However, the research literature behind the insoles area has lagged behind clinical practice, often leading the clinician to recommend interventions based on opinion and past experience rather than published evidence
- The aim of this study is to investigate if any biomechanical adaptation or pain reduction occurs after four-weeks use of a custom-made insole.

2

Methods

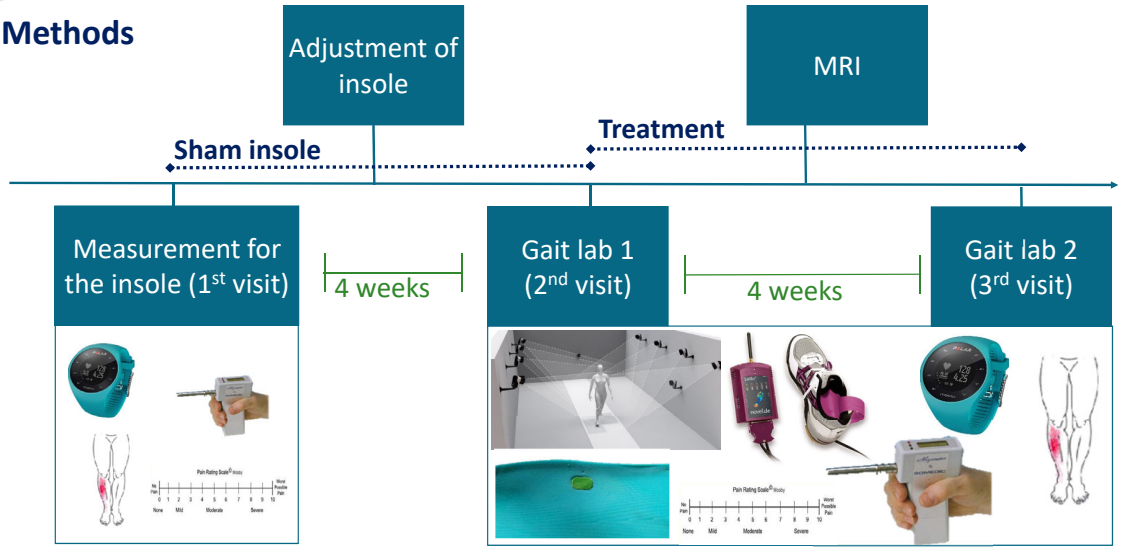

Figure 1: Timeline for the experiment.

3

Results

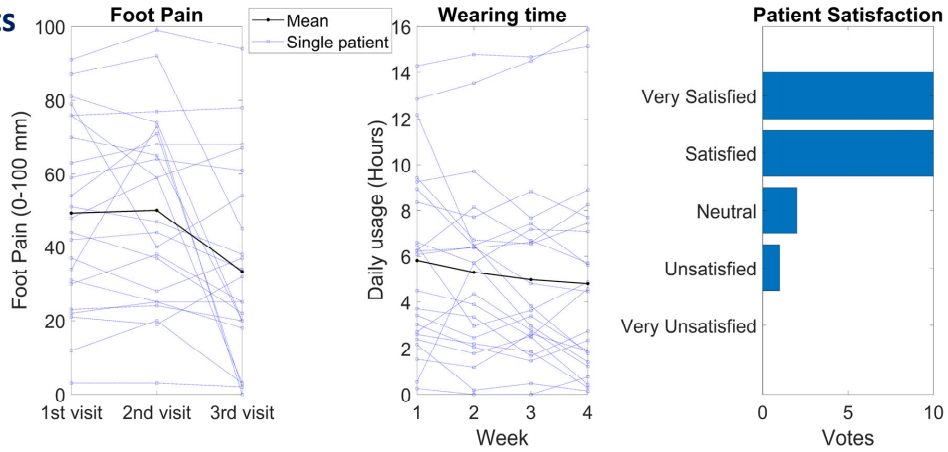

Figure 2: Foot pain (0-100 VAS score) compliance (measured with temperature sensor) and patient satisfaction for all subjects.

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TrygFonden
The Danish Rheumatism Association

4. Influenza vaccination response in immunosuppressed rheumatic disease patients: a cohort study

Prabhat Kumar[1], Ramona Trebbien[2], Lisbeth S. Libak[1], Peter Derek Christian Leutscher[3,4] and Claus Rasmussen[1,4]

1. Department of Rheumatology, North Denmark Regional Hospital, Hjoerring, Denmark
2. Statens Serum Institut, Copenhagen, Denmark
3. Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark
4. Department of Clinical Medicine, Aalborg University, Denmark

Background
Due to immunological dysfunction and immunosuppressive treatment by use of biologicals and synthetic disease modifying anti-rheumatic drugs (sDMARDs), patients suffering from rheumatic diseases have higher risk of developing infections. Clinical guidelines recommend annual influenza vaccination to reduce infection risk in this group of patients. However, vaccination response in these patients is uncertain.

The objective is to study influenza vaccination response and compliance in rheumatic disease patients.

Methods
This cohort study was conducted in the Department of Rheumatology at the North Denmark Regional Hospital.Patients with rheumatic disease receiving biological treatment ± sDMARDs and registered in Danish Rheumatology database (DANBIO) before 1.3.2017 were included in the study. The history of influenza vaccination of each patient was reviewed for the period of 1.9.2018 to 31.12.2018 by access to the Danish vaccination Register (DDV) and Danish Electronic Medicine Module (FMK). Baseline characteristics were collected through patient records review including rheumatological diagnosis, date and type of influenza vaccination, DMARDs regimen, disease activity score at the time of vaccination. Influenza antibody levels in pre- and post-vaccination blood samples were determined by hemagglutination test in patients with DDV confirmed immunisation status. A four-fold-increase in antibody levels post vaccination was interpreted as indicative of sero-conversion in response to vaccination.

Results
Data will be presented at the symposium.

Conclusion
This study will provide data in dual manner on influenza vaccination antibody response and to evaluate adherence level among rheumatic disease patients to the existing influenza vaccination guidelines, respectively. Statistical analysis of the data is planned and results will be presented in the research symposium.

NORTH DENMARK REGION

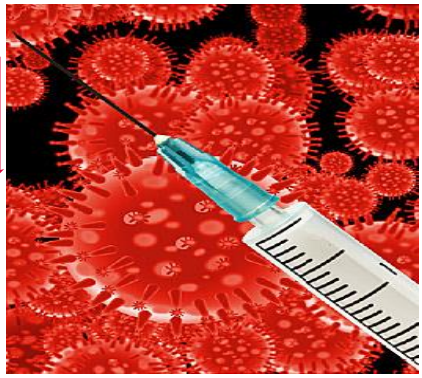
Influenza vaccination response in immunosuppressed rheumatic disease patients: a cohort study

Prabhat Kumar[1*] , Ramona Trebbien[2] , Peter Leutscher[3], Lisbeth S Libak[1] , Claus Rasmussen[1]

1. Department of Rheumatology, North Denmark Regional Hospital, Hjørring
2. Staten Serum Institute, Copenhagen
3. Centre for Clinical Research, Hjørring

INTRODUCTION

Due to immunological dysfunction and immunosuppressive treatment patients suffering from rheumatic diseases have higher risk of developing infections. Clinical guidelines recommend annual influenza vaccination to reduce infection risk in this group of patients. However, vaccination response in these patients is uncertain.



METHOD

Patients on biological treatment ± sDMARDs and registered in DANBIO before 1.3.2017 included in the study

History of influenza vaccination of each patient reviewed for period 1.9.2018 to 31.12.2018 by access to DDV and FMK

Baseline characteristics were collected through patient records review

Influenza antibody levels in pre- and post- vaccination blood samples were determined

OBJECTIVES

- To study influenza vaccination response
- To assess the degree of conformity to recommended influenza vaccination guidelines in rheumatic disease patients

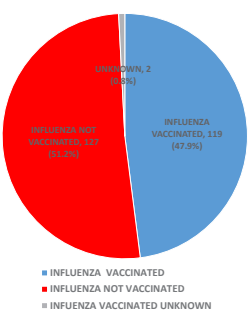
Study Data

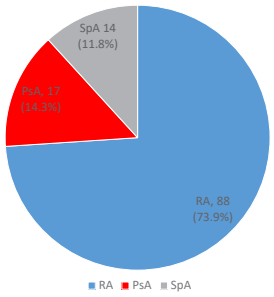
	Influenza vaccination +	Influenza vaccination -	Unkown	Sum	p-value
Total Number	119	127	2	248	
Male/Female	43/76	64/63	2/0	109/139	
Median Age Yrs	60	57			p<0,0001 MW
+/- Methotrexate	75/44	66/61		141/105/1	
Disease activity	High 31 Low 88	High 26 Low 101		57 189	
+/- Prednisolon	7/112	11/116			
HAI titre measured before and after influenza vaccination	Yes 111 No 8	Yes 115 No 12		Yes 226 No 20	
Antibiotic prescriptions in 2018	Yes 49 No 70	Yes 38 No 88			

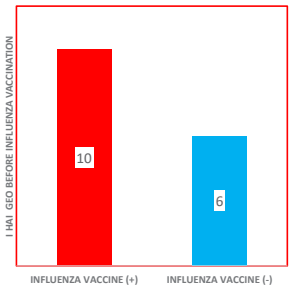
	Influenza vaccination +	Influenza vaccination -	p-value
1-HAI-geo before Influenza vaccination	Median 10 (n=111)	Median 6 (n=115)	p<0,0001
2-HAI-geo after Influenza vaccination	Median 22 (n=111)	Median 10 (n=115)	p<0,0001
Increase in HAI-geo with or without Influenza vaccination	Median 13 (n=111)	("control group") Median 3 (n=111)	p<0,0001

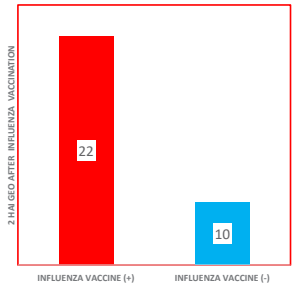
	Influenza vaccination +	Influenza vaccination -	p-value
Fold increase HAI-geo 1 to 2			
>= 2	79	60	p=0,0003
< 2	32	55	
Unknown	8	12	

	Methotrexate +	methotrexate -	p-value
Increase HAI-geomean in influ vacc +	Median 15 (n=70)	Median 12 (n=41)	p=0,02
Unknown	n=5	n=3	









CONCLUSION

In 2018 Influenza vaccination rate in RD patients with follow up in our clinic was 48% . Vaccination registration in Danish Vaccination Database was 100 %.
Initial analysis of data is showing significant rise in influenza antibody titres after influenza vaccination. We are awaiting data for number of admissions with infections and antibiotic usage in both groups during period 1.10.2018 to 1.10.2019. Statistical analysis will be done in due course.

5. Pneumococcal vaccination in arthritis patients treated with biological therapy and with a low level of antibodies - a cohort study of patients with varying vaccination status

Lisbeth Libak Strandbygaard[1,2], Sophie Larsen Rasmussen[3], Kurt Fuursted[4], Kristian Hay Kragholm[3], Peter Derek Christian Leutscher[3,5] and Claus Rasmussen[1,5]

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Background
Patients with inflammatory rheumatic diseases are at higher risk of infections. To reduce the risk of serious infections, it is recommended to vaccinate patients against *Streptococcus pneumoniae*. However, studies have shown different pneumococcal antibody response to the vaccination.

We aimed to examine the level of pneumococcal antibodies after vaccination and analyse potential predictors of vaccine response.

Methods
Pneumococcal antibodies were measured by a serological assay in patients treated with biologics in a rheumatology outpatient clinic. Vaccination with 23-valent-pneumococcal polysaccarid vaccine was offered to patients with antibody level below the defined protective threshold.Pneumococcal antibody level was measured at follow-up 2-3 months later to assess seroconversion rate. The patients continued their Disease Modifying Anti-rheumatic Drug (DMARD) treatment without changes before and after the vaccination. Demographic and clinical data were collected at the vaccination time.

Results
A total of 248 patients were vaccinated in our study. Among them, 55% (n=137) had been previously vaccinated against *Streptococcus pneumoniae*. The protective level of antibodies was achieved by 34% (n=84) at follow-up. Use of methotrexate (p=0,0001) and previous vaccination (p=0,02) were positively associated with unprotected level of pneumococcal antibodies. There was no clear association between seroconversion rate and use of biological DMARDs.

Conclusion
Treatment with methotrexate was associated with lack of seroconversion. Further studies are warranted to investigate whether discontinuation of methotrexate will better the response to vaccination. It is possible, that previously vaccinated patients may never have achieved a protective antibody level after their first vaccination.

Pneumococcal vaccination in arthritis patients treated with biological therapy and with a low level of antibodies - a cohort study of patients with varying vaccination status.

L.L. Strandbygaard[1,2], S. Larsen Rasmussen[3], K. Fuursted[4], K. Hay Kragholm[3,5], P. Leutscher[3,5], C.Rasmussen[1,2,3,5]

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Introduction

Risk of infection is increased in autoinflammatory rheumatic diseases[1]. Furthermore DMARD treatment contributes to this risk[2]. To reduce the risk of serious infections, it is recommended that the patients are vaccinated against *Streptococcus pneumoniae*[3]. However, studies have shown different pneumococcal antibody response to vaccination[4]. The aim of the study was to examine the proportion of patients with low antibody levels, who achieved a protective level of pneumococcal antibodies after vaccination.

Methods

Pneumococcal antibodies were measured by a serological assay in patients treated with biologics in our rheumatology outpatient clinic. Vaccination with 23-valent-pneumococcal polysaccarid vaccine was offered to patients with a protective antibody level below the defined threshold. Among 248 vaccinated patients 137 (55%) had been previously vaccinated. Pneumococcal antibody level was meassured at follow-up 2-3 months later to assess seroconversion rate. The patients continued their DMARD treatment without any changes before and after vaccination.

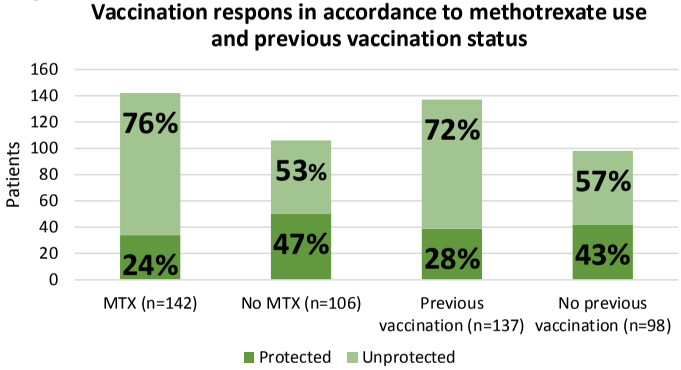
Demographic and clinical data were collected, including age, sex, rheumatic disease diagnosis, duration and activity (high/low), in addition to treatment (biologics, prednisolone, methotrexate) and previous vaccination history.

Results

Table 1 Sero-conversion at follow-up

	Protected	Unprotected
No. of patients	84	164
%	34%	66%

Figure 1



Time between vaccinations: median 49 months (20-111).
Less than 5 years (60 months) between vaccinations is associated with not achieving at protective level of antibodies

Conclusion

In this study, a protective level of antibodies was achieved by 84 (34%) patients at follow-up (table 1). Use of methotrexate as part of the DMARD regimen was associated with an unprotected level of pneumococcal antibodies (Figure 1) (p=0,0001). There was no similar association with respect to use of biologics.

There was an association between previous vaccination, and not achieving a protective level of antibodies (Figure 1) (p=0,02), as well as an association between less than 5 years between vaccinations and not achieving a protective level. These findings may be explained by the patient selection. All 248 patients had a low level at baseline, despite 137 being previously vaccinated. We think, that a significant share of these previously vaccinated patients, have never, or only shortly, achieved a protective antibody level after their first vaccination, but we have no data to support this.

Further studies are warranted to show whether or not a short discontinuation of methotrexate, will better the response to vaccination.

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1. Wolfe, F. et al. The mortality of rheumatoid arthritis. *Arthritis Rheum* 1994;*37*(4):481–494.
2. Ramiro, S. et al.). Safety of synthetic and biological DMARDs: a systematic literature review informing the 2016 update of the EULAR recommendations for management of rheumatoid arthritis. *Ann Rheum Dis* 2017;*76*(6):1101–1136.
3. van Assen S. et al. (). EULAR recommendations for vaccination in adult patients with autoimmune inflammatory rheumatic diseases. *Ann Rheum Dis* 2011;*70*(3):414–422.
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Infektionsmedicin

6. Antibiotika-praksis for patienter udredt og behandlet for samfundserhvervede infektioner via Akutmodtagelsen på Regionshospital Nordjylland - et journal-baseret audit studie

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Baggrund
Op imod halvdelen (20-50%) af alle hospitals-ordinationer af antibiotika vurderes at være *unødvendige* eller *uhensigtsmæssige*, hvilket er bekymrende og ganske bemærkelsesværdigt, da enhver antibiotika-behandling indebærer risiko for resistensudvikling - i særdeleshed multiresistente bakteriestammer ifm. bredspektrede antibiotika, og regionens behandlingsvejledninger er praksis-orienterede kliniske værktøjer med specifikke og konkrete eksempler.

Formålet med studiet er bestemmelse af omfanget af unødvendige og uhensigtsmæssige antibiotika-ordinationer med identifikation af indsatsområder for en kvalitetssikrings-proces, herunder evaluering af biomarkøren procalcitonin for evnen til at diskriminere imellem bakterielle infektioner og andre non-bakterielle, febrile tilstande.

Metode
Systematisk journal-audit af alle infektionssuspekte patienter (i alt 403) undersøgt med bloddyrkning, suppleret med blindet procalcitonin-analyse, via Akutmodtagelsen, Regionshospital Nordjylland, i perioden 1/6 – 1/8 2018. Audit af klinisk forløb vurderet ift. regionens daværende retningslinjer samt følgende definitioner: Behandlings-indikation: sygdom forårsaget af bakteriel infektion, hvilket begrundes i patientjournalen ved at referere til anamnestiske og kliniske fund samt relevante prøveresultater der understøtter en konkret infektionsdiagnose. Unødvendig ordination: antibiotika-behandling af non-bakterielle tilstande.Uhensigtsmæssig antibiotika valg: behandling er velindiceret, men anvendte antibiotika-regime er ikke i overensstemmelse med regionens retningslinjer.

Resultater
Præliminære resultater viser at knap 1/3 af patienterne ikke modtog antibiotika.
Antibiotika blev for hovedparten igangsat i første døgn og ved udgangen af tredje døgn var næsten 2/3 fortsat i behandling mens al antibiotika var seponeret for mere end 1/3 af patienterne indenfor 72 timer, hvilket indikerer behandlingen var unødvendig.

Konklusion
Vi forventer studiet vil bidrage med ny viden om anvendt antibiotika-praksis samt evaluering af mulige indsatsområder, herunder procalcitonin, til forbedret og/eller tidligere identifikation af infektionssuspekte patienter med behov for antibiotika-behandling.

Antibiotika-praksis for patienter udredt og behandlet for samfundserhvervede infektioner via Akutmodtagelsen på Regionshospital Nordjylland—et journal-baseret audit studie

Morten Børge Sørensen[1], Steen Kåre Fagerberg[2], Marc Ludwig[3], Peter Hindersson[4] & Peter Derek Christian Leutscher[1, 5]

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Baggrund

Op imod halvdelen (20-50%) af hospitalsordineret antibiotika internationalt vurderes at være unødvendig eller uhensigtsmæssig (1), hvilket er bekymrende, da enhver antibiotika behandling indebærer risiko for resistensudvikling. I Danmark er der i de forskellige regioner indført antibiotika behandlingsvejledninger for netop at imødekomme og forebygge tendensen omkring redundante antibiotika ordinationer.

Formålet med studiet er bestemmelse af omfanget af unødvendige og uhensigtsmæssige antibiotika ordinationer i en akut modtagelsesafdeling på et dansk regionshospital. Endvidere vil procalcitonin (PCT) blive evalueret som biomarkør til diskrimination imellem bakterielle infektioner og andre non-bakterielle, febrile tilstande.

Metode

Systematisk journal-audit af alle infektionssuspekte patienter (N=404), hvor der i det initiale modtagelsesforløb (<24t) var blevet bestilt en bloddyrkning via Akutmodtagelse, Regionshospital Nordjylland, i perioden 1.6 til 1.8 2018. I forbindelse med bloddyrkning blev der i forbindelse med studiet endvidere foretaget en PCT analyse, hvor svaret forblev blindet for klinikeren.

	Antibiotika: Administrationsstatus ved 72 timer efter PCT[1]		Antibiotika: Ikke opstartet
	Kontinueret (N = 163)	Seponeret (N = 126)	(N = 115)
Køn [mand], n (%)	84 (52)	74 (59)	57 (50)
Alder [år], median (IQR)	76 (68; 83)	69 (54; 78)	63 (45; 78)
Varighed, indlæggelse [døgn], median (IQR)	6,1 (4,6; 8,8)	1,9 (0,9; 2,7)	0,9 (0,2; 2,4)
Varighed, antibiotika [døgn], median (IQR)[2]	5,7 (4,3; 8,0)	1,3 (0,5; 2,1)	N/A
CRP [mg/L], median (IQR)	93,8 (33,1; 166,0)	72,5 (21,2; 139,3)	8,4 (2,9; 36,1)
CRP interval, n (%) < 8,0	18 (11)	13 (10)	57 (50)
≥ 8,0	145 (89)	113 (90)	58 (50)
PCT [µg/L], median (IQR)	0,16 (0,05; 0,62)	0,09 (0,04; 0,25)	0,02 (0,02; 0,06)
< 0,5	115 (71)	108 (86)	110 (96)
≥ 0,5	48 (29)	18 (14)	5 (4)

Forkortelser: IQR, inter-kvartil interval; N/A, Not Applicable; CRP, C-reaktivt protein; PCT, procalcitonin. **Note. 1**: Tidspunkt for blodprøve (PCT); **2**: Eksklusiv afsluttende behandling med peroral antibiotika i hjemmet.

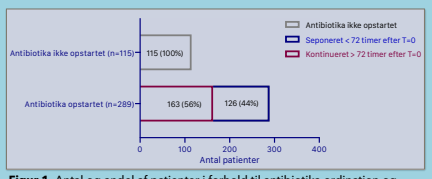
Tabel 1. Demografiske og kliniske karakteristika, samt C-reaktiv protein (CRP) og procalcitonin (PCT) værdier i forhold til antibiotika status.

Referencer
1. CDC. Core Elements of Hospital Antibiotic Stewardship Programs. 2014

Keywords: Procalcitonin (PCT), antibiotika, infektion, samfundserhvervet, akutmodtagelse

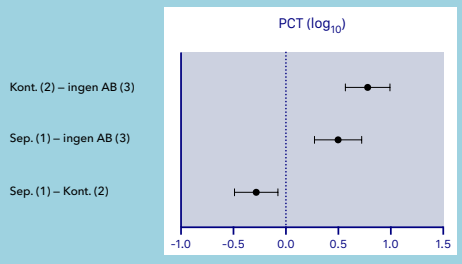
Resultater

Præliminær data analyse har vist at 289 (71%) af de 404 infektionssuspekte patienter fik ordineret antibiotika inden for de 3 første indlæggelsesdøgn (fig. 1). Antibiotika blev for 270 (93%) patienter igangsat i første døgn. Ved udgangen af tredje indlæggelsesdøgn var antibiotika seponeret hos 126 (44%) patienter, hvilket indikerer at den iværksatte behandling har været skønnet klinisk unødvendig.



Figur 1. Antal og andel af patienter i forhold til antibiotika ordination og videre forløb.

I tabel 1 er vist demografiske og kliniske karakteristika, samt CRP og PCT værdier i forhold til antibiotika status. Ved sammenligning af gruppen af patienter, der er fortsat med antibiotika behandling i mere end 72 timer, med den tilsvarende gruppe, der har fået seponeret antibiotika, blev der observeret en signifikant højere forekomst af henholdsvis CRP ≥ 8,0 mg/L og PCT ≥ 0,5 µg/L værdier i førstnævnte gruppe (p<0,05).



Figur 2. Difference mellem de tre PCT gruppe gennemsnit (95% konfidensinterval) med anvendelse af ANOVA test.

ANOVA test af differencen imellem de tre studie grupper er vist for PCT i figur 2. Resultatet demonstrerer at gennemsnittet af gruppernes PCT niveau, er indbyrdes signifikant forskellige.

Konklusion

Andelen af tidligt seponerede behandlinger antyder et betydeligt omfang af unødvendige antibiotika-ordinationer. På baggrund af ANOVA-analysen må det forventes at PCT vil have prædiktiv, diagnostisk værdi med deraf følgende nedbringelse af unødvendige antibiotika ordinationer.

Perspektiver

Nærværende poster er et register-baseret delprojekt af et større og mere dybdegående studie med brug af journal audit, hvor bl.a. diagnoser, bakterie-agens samt antibiotika-regime vil blive undersøgt.

Vi forventer studiet vil bidrage med ny viden om anvendt antibiotika ordinationspraksis samt evaluering af mulige indsatsområder, herunder brug af PCT som biomarkør til forbedret og/eller tidligere identifikation af febrile patienter med behov for antibiotika behandling.

Forskningssymposium IV, November 14, 2019, Hjørring, Danmark

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7. Anvendelse af maskinlæring til udvikling af prædiktive modeller, som kan forudsige hospitalserhvervede infektioner

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Baggrund
Hospitalserhvervede infektioner påvirker både dødeligheden, længden på hospitalsophold og den økonomiske byrde for at behandle patienterne. I fremtiden er antal døde som følge af hospitalserhvervede infektioner forventet at stige. Behandling af hospitalserhvervede infektioner er desuden tæt forbundet med resistensproblematikken.

Det er en udfordrende opgave at gennemskue, hvilke patienter der er i øget risiko for at få en hospitalserhvervet infektion. Dette kan f.eks. være påvirket af komorbiditeter, årstid, alder, osv., foruden ændringer i vitalparametre og ændringer i lab-resultater, som først er tilgængelig efter urin- og blodprøven er taget.

Formålet med dette studie er at udvikle nye tiltag, som skal:

1. Muliggøre forudsigelse af patienter, som udvikler hospitalserhvervet infektion.
2. Bidrage til ny viden omkring udviklingsmønstrene for hospitalserhvervede infektioner.

Metoder
Data fra HAIBA, PAS, LABKA og Clinical er tilgængeligt via *Business Intelligence* (BI) Enheden i Region Nordjylland. Der vil blive udviklet probabilistiske modeller af typen 'Bayesianske Netværk', hvor kausalitet i data modelleres. Studiet er gennemgået en stor datamanagement-fase, som startede i marts 2019. Modelleringsfasen er netop begyndt. Det forventes, at studiet leder til en udgivelse ved årsskiftet.

Resultater
De forventede resultater vil både være eksempler på prædiktioner og mønstre i data, samt en *performance-test* af modellen. Dette vil eksempelvis fortælle om akkuratessen på prædiktionerne.

Konklusion
Det forventes, at modellen vil bidrage til tidlig igangsættelse af behandling af hospitalserhvervede infektioner og måske endda bidrage til at kunne forebygge dem, så de helt undgås. Dette vil potentielt kunne bidrage til at patienterne oplever bedre sygdomsforløb, at mortaliteten falder og at indlæggelsesomkostningerne nedbringes.

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CKF
CENTRE FOR CLINICAL RESEARCH
North Denmark Regional Hospital

Anvendelse af *Machine Learning* til udvikling af prædiktive modeller indenfor hospitalserhvervede infektioner

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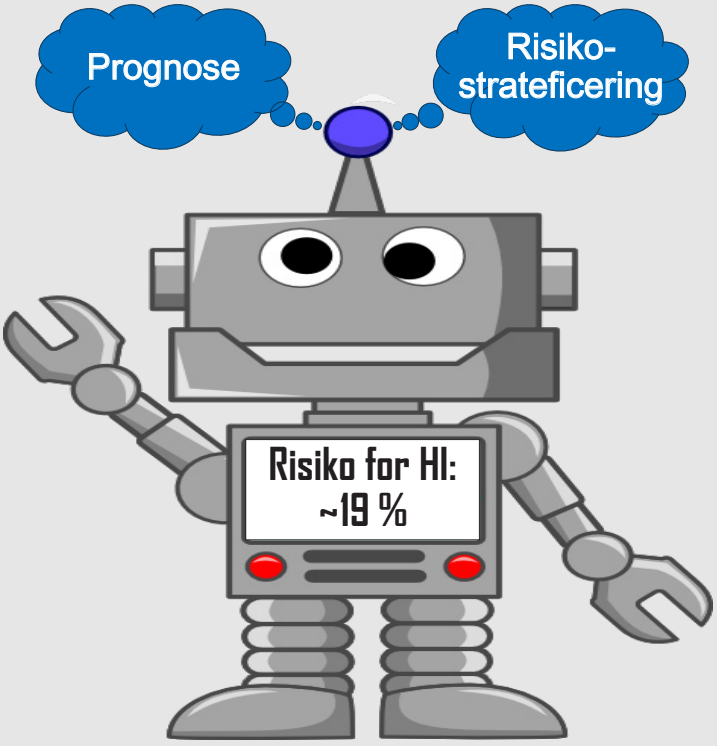
3. Distributed, Embedded and Intelligent systems, Institut for Datalogi, Aalborg Universitet. 4. Klinisk Institut, Aalborg Universitet.,
5. Business Intelligence, region Nordjylland

Baggrund

Hospitalserhvervede infektioner (HI) påvirker både dødeligheden, længden på hospitalsophold og den økonomiske byrde for at behandle patienterne. I fremtiden er antal døde som følge af HI forventet at stige. Behandling af HI er endvidere tæt forbundet med resistensproblematikken.

Det er en udfordrende opgave at gennemskue, hvilke patienter der er i øget risiko for at få en HI. Denne risiko kan f.eks. være påvirket af komorbiditet, årstid, alder, osv.

Formålet med dette studie er at udvikle nye tiltag, som skal (1) muliggøre forudsigelse af patienter, som udvikler en HI og (2) bidrage til ny viden omkring udviklingsmønstrene for en HI.



Metode

Data fra HAIBA, PAS, LABKA og Clinical er tilgængeligt via Business Intelligence (BI) enheden i Region Nordjylland.

Der vil blive udviklet probabilistiske modeller af typen 'Bayesianske Netværk', hvor kausalitet i data modelleres.

Studiet er gennemgået en omfattende datamanagement-fase, som startede i marts 2019. Modelleringsfasen er netop begyndt.

Resultat

De forventede resultater vil både være eksempler på prædiktioner og mønstre i data, samt en *performance-test* af modellen, der vil kunne fortælle om akkuratessen af prædiktionerne.

Konklusion

Det forventes, at modellerne vil være et nyt værktøj for klinikeren til tidlig identificering af HI. Dette skal bidrage til forebyggelse af HI og til tidlig indsættelse af behandling. Dette vil potentielt kunne bidrage til, at patienten oplever et bedre sygeforløb, at HI-associeret mortalitet falder og at den økonomiske byrde for behandling af patienten kan nedbringes.

8. Aiming to treat *Schistosoma haematobium* induced lesions in the cervix more efficiently – a randomized controlled trial in Madagascar

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Background

Schistosoma haematobium is a water-borne parasitic worm (Figure 1) causing egg-induced inflammatory lesions in the pelvic organs in women in sub-Saharan Africa. Female genital schistosomiasis (FGS) is characterized by cervico-vaginal lesions(includingrubbery papules, homogeneous and sandy sandy patches,and neovascularisation) , which is associated with increased risk of HIV transmission, in addition to pelvic discomfort.1 Conventional single-dose treatment with trematodicide drug, praziquantel, has shown inefficient in treatment of the lesions.

The aim of this randomized clinical trial is to evaluate effect and safety of a more intensified praziquantel dosing regimen.

Methods

The RCT will be conducted in an *S. haematobium* endemic region in the Northern Madagascar (Figure 2) with inclusion of 116 women aged 18 to 34 years with 58 women in each of two treatment groups (conventional versus intensified regimen). Primary study outcome is regression of cervical lesions (Figure 3a) following treatment. Presence of lesions will be monitored at baseline and at follow-up (5,10 and 15 weeks) by use of a FGS digital grid system (Figure 3b). In addition, schistosoma DNA PCR, circulating aniodic antigens, eosinophil cationic proteins and cytokines will be measured in vaginal lavage and cytobrush/Q-tips collectec material.

Results

The RCT will be finalized by March 2020. Preliminary results from the baseline study will be presented at the RHN Research symposium.

Conclusions

We expect that the RCT will add new important information to be used in the development of future clinical guidelines aiming to offer women with FGS an improved treatment regimen.

Conclusion

Kjetland EF, Leutscher PD, Ndhlovu PD. A review of female genital schistosomiasis. Trends Parasitol. 2012 Feb;28(2):58-65.

Aiming to treat Schistosoma haematobium induced lesions in the cervix more efficiently

- a randomized controlled trial in Madagascar

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Background

Schistosoma haematobium is a water-borne parasitic worm (figure 1) causing egg-induced inflammatory lesions in the pelvic organs in women in sub-Saharan Africa. Female genital schistosomiasis (FGS) is characterized by cervico-vaginal lesions(including rubbery papules, homogeneous and sandy sandy patches,and neovascularisation) , which is associated with increased risk of HIV transmission, in addition to pelvic discomfort.1 Conventional single-dose treatment with trematodicide drug, praziquantel, has shown inefficient in treatment of the lesions.

The aim of this randomized clinical trial is to evaluate effect and safety of a more intensified praziquantel dosing regimen.

Methods

The RCT will be conducted in an *S. haematobium* endemic region in the Northern Madagascar (figure 2) with inclusion of 116 women aged 18 to 34 years with 58 women in each of two treatment groups (conventional versus intensified regimen). Primary study outcome is regression of cervical lesions (figure 3a) following treatment. Presence of lesions will be monitored at baseline and at follow-up (5,10 and 15 weeks) by use of a FGS digital grid system (figure 3b). In addition, schistosoma DNA PCR, circulating aniodic antigens, eosinophil cationic proteins and cytokines will be measured in vaginal lavage and cytobrush/Q-tips collectec material.

Results

The RCT will be finalized by March 2020. Preliminary results from the baseline study will be presented at the symposium.

Conclusions

We expect that the RCT will add new important information to be used in the development of future clinical guidelines aiming to offer women with FGS an improved treatment regimen.

Reference

Kjetland EF, Leutscher PD, Ndhlovu PD. A review of female genital schistosomiasis. Trends Parasitol. 2012 Feb;28(2):58-65.

Figures

Figure 1. The adult Schistosoma haematobium worm pair

Figure 2. The FGS study site in the Ambanja Region in Northern Madagascar

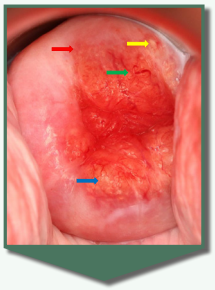

Figure 3a. Photo of the cervix with S.haematobium induced lesions before treatment: rubbery papules (yellow arrow);homogeneous sandy patches (blue arrow); grainy sandy patches (red arrow) and neovasularization (green arrows)

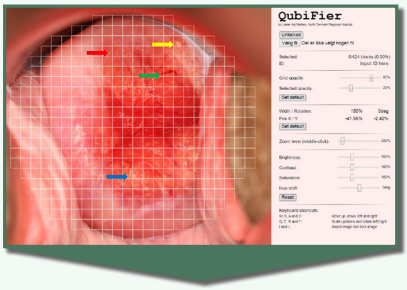

Figure 3b. The FGS digital grid system (developed by Lasse Høj Nielsen) for quantitative assessment of S. haematobium induced cervical lesions

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RHN/MH/1019

Geriatri

9. The minimal eating observation form – II (MEOF II) – Danish version - psychometric and metrological perspectives

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Background
The Minimal Eating Observation Form – II (MEOF-II) is a nine item screening and research tool for eating difficulties. The MEOF-II includes three subscales with three items in each subscale. The three subscales are: deglutition, ingestion, energy and appetite.

Here we assess psychometric and metrological aspects of the Danish version of the tool.

Methods
This study includes MEOF-II data from 302 acute geriatric patients hospitalized in the geriatric department from 1 March 2016 to 31 August 2016 at North Denmark Regional Hospital. Analyses were based on Classical Test Theory and Rasch Model Analysis.

Results
A total of 51.3% of the patients had eating difficulties. The MEOF-II items belonged to one higher order factor and three lower level factors: deglutition, ingestion and energy/appetite. The hierarchical structure of the items was revealed and items could be ordered from "easier" to "more severe": appetite, swallowing, ability to chew, manipulation of food in the mouth, alertness, manipulation of food on the plate, transport of food to the mouth, eating less than 3/4 of served food, sitting position. The MEOF-II had a good fit with Rasch model expectations and thus seem to fulfill rigorous measurement standards.

Conclusion
The study provides support for the reliability and validity of the Danish version of the MEOF-II. MEOF-II total and subscale scores are reliable and valid for use in nursing practice and research.

The minimal eating observation form - II (MEOF-II) danish version

- psychometric and metrological perspectives

Albert Westergren, professor, RN, Ph.D., Kristianstad University, Sweden
Dorte Melgaard, senior researcher, Ph.D., Center for Clinical Research, North Denmark Regional Hospital, Denmark

Introduction

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Methods

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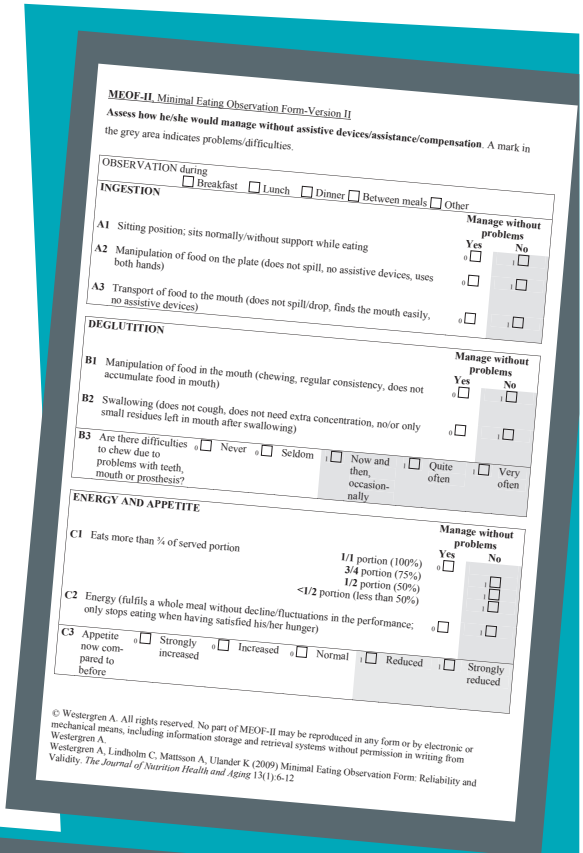
Key conclusions

The study provides support for the reliability and validity of the Danish version of the MEOF-II. MEOF-II total and subscale scores are reliable and valid for use in nursing practice and research.



MEOF-II Minimal Eating Observation Form-Version II

Assess how he/she would manage without assistive devices/assistance/compensation. A mark in the grey area indicates problems/difficulties.

OBSERVATION during ☐ Breakfast ☐ Lunch ☐ Dinner ☐ Between meals ☐ Other

INGESTION

		Manage without problems: Yes	No
A1	Sitting position; sits normally/without support while eating	0 ☐	1 ☐
A2	Manipulation of food on the plate (does not spill, no assistive devices, uses both hands)	0 ☐	1 ☐
A3	Transport of food to the mouth (does not spill/drop, finds the mouth easily, no assistive devices)	0 ☐	1 ☐

DEGLUTITION

		Manage without problems: Yes	No
B1	Manipulation of food in the mouth (chewing, regular consistency, does not accumulate food in mouth)	0 ☐	1 ☐
B2	Swallowing (does not cough, does not need extra concentration, no/or only small residues left in mouth after swallowing)	0 ☐	1 ☐

B3	Are there difficulties to chew due to problems with teeth, mouth or prosthesis?	0 ☐ Never	0 ☐ Seldom	1 ☐ Now and then, occasionally	1 ☐ Quite often	1 ☐ Very often

ENERGY AND APPETITE

			Manage without problems: Yes	No
C1	Eats more than ¾ of served portion	**1/1** portion (100%) **3/4** portion (75%) **1/2** portion (50%) **<1/2** portion (less than 50%)	0 ☐	1 ☐ 1 ☐ 1 ☐
C2	Energy (fulfils a whole meal without decline/fluctuations in the performance; only stops eating when having satisfied his/her hunger)		0 ☐	1 ☐

C3	Appetite now compared to before	0 ☐ Strongly increased	0 ☐ Increased	0 ☐ Normal	1 ☐ Reduced	1 ☐ Strongly reduced

Westergren A, Lindholm C, Mattsson A, Ulander K (2009) Minimal Eating Observation Form: Reliability and Validity. *The Journal of Nutrition Health and Aging* 13(1):6-12

Kristianstad University Sweden

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10. OPRA (Older Persons Risk Assessment): A nationwide register based database for mapping patient journeys and risk assessment among Danish patients aged 65+ and above

Mona Kyndi Pedersen[1], Peter Derek Christian Leutscher[1,2] and Søren Lundbye-Christensen[2,3]

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2. Department of Clinical Medicine, Aalborg University, Denmark
3. Unit of Clinical Biostatistics, Aalborg University Hospital, Denmark

Background
Health care use depends on the life conditions and needs of the individual as well as health care accessibility. However, there is still a relatively incomplete understanding of factors affecting the patient journey in older persons suffering from multi morbidity and with complex health care needs.

Methods
The OPRA-Database was developed for mapping patient journeys and risk assessment among patients aged 65+, transcending organisational boundaries within the Danish health care system. The database encompasses data from ten nationwide population-based registers. The pre-modelling phase comprised five steps: 1) Identification of registers and data, 2) Definition of the population, 3) Definition of the index-admission and outcome, 4) Groups of variables and 5) Data management and data merging.

Results
The OPRA-Database population includes persons aged 65+ years, admitted to Danish public hospitals in the period from January 2007 to December 2010. The cohort includes 1,267,752 hospital admissions for 479,854 unique persons. The database covers patient- and admission-level variables, such as information on demographics, social determinants, clinical conditions, medication linked with health care related information.

Conclusion
The OPRA-Database is multi-component and multi-disciplinary in orientation, enabling researchers to track patient data over time rather than focusing on single disease events. The construct of the database is neither final nor static and it is possible to update the database and include new variables for future epidemiological and clinical research.

OPRA*

DATABASE

A nationwide register based database for mapping patient journeys and risk assessment among Danish patients aged 65+ and above

Mona Kyndi Pedersen[1], Peter Derek Christian Leutscher[1,2] and Søren Lundbye-Christensen[2,3].
[1] Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark, [2] Department of Clinical Medicine, Aalborg University, Denmark, [3] Unit of Clinical Biostatistics, Aalborg University Hospital, Denmark

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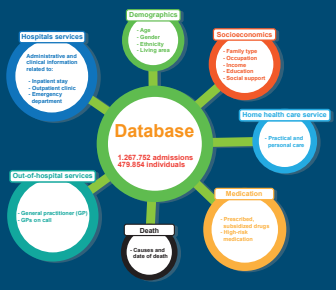
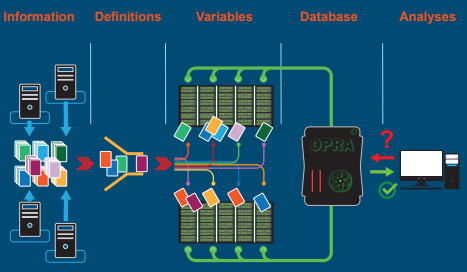
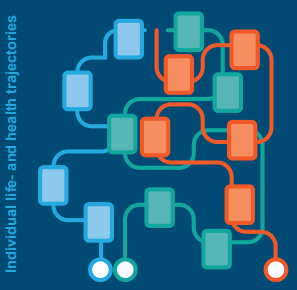
Data sources



Data-management



Mapping patients journeys



Conclusions

The OPRA-Database is multi-component and multi-disciplinary in orientation, enabling researchers to track patient data over time rather than focusing on single disease events. The database is prepared for a wide range of subgroup analyses, including different outcome measures and statistical methods.

Perspectives

The construct of the OPRA-Database is neither final nor static and the database will be updated and include new variables for future epidemiological and clinical research.

Recent and forthcoming studies based on OPRA focusing patients aged 65+:

- Risk factors for acute, all-cause 30-Day readmission
- Pre-diagnostic characteristics and patterns of health care utilization
- Multimorbidity: Prevalence, predictors and outcomes

Funding

A.P. Moeller Foundation for the Advancement of Medical Science, Speciallaege Henrich Kopps Legat, Novo Nordisk Foundation, The Danish Nursing Research Foundation and Marie Pedersen og Jensine Heibergs Legat supported this work.

65+

* Older Persons Risk Assessment

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NORTH DENMARK REGIONAL HOSPITAL

ØVRIGE MEDICINSKE SPECIALER

11. Deuterium metabolic imaging in human heart failure patients using cardiac magnetic resonance imaging in vivo

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2. Department of Cardiology, North Denmark Regional Hospital, Hjoerring, Denmark
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6. Department of Cardiology, Aarhus University Hospital, Denmark

Background
Despite improvements in medical treatment, chronic heart failure (CHF) remains a major global health problem. Patients with CHF exhibit substantial morbidity and poor survival. Recently, altered cardiac energy metabolism has been recognised as a key factor in the development of CHF. The only clinically accessible method for cardiac metabolic imaging is positron emission tomography (PET). However, PET uses ionizing radiation and cannot distinguish tracers from downstream metabolites. Deuterium metabolic imaging (DMI) uses ^{2}H-labeled glucose and Magnetic Resonance Imaging (MRI). The method can produce images comparable to PET-images in patients with brain tumours. To the best of our knowledge, no studies have yet been published, using DMI in studies of the heart.

The aim of the present study is to investigate the method of DMI in patients with CHF and ischemic heart disease (IHD).

Methods
The project comprises three substudies. 1: includes 10 healthy volunteers. 2: is a cross sectional study of 10 patients with CHF. All examined clinically, by echocardiography, and DMI. 3: includes 10 patients with CHF and IHD referred to PET for viability testing. Patients will subsequently undergo DMI and contrast-enhanced MRI.

Results
We expect to begin inclusion of patients from 15 September 2019.

Conclusion
After completion of study 1-3, we hope to achieve a better understanding of specific metabolic changes in patients with CHF. Cardiac DMI might hold the key to a novel approach of metabolic imaging and a non-radioactive alternative to PET.

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Aarhus University Hospital

WHY HEART FAILURE PATIENTS SHOULD DRINK HEAVY WATER

MD. Steen Hylgaard Jørgensen[1,2], Ph.d., MD Peter Bisgaard Stæhr[1], Ph.d.. Christoffer Laustsen[3], Dr.med. Henrik Wiggers[4]
[1]Department of Cardiology, North Denmark Regional Hospital, Hjørring, [2]Centre for Clinical Research, North Denmark Regional Hospital, Hjørring, [3]The MR-Center, Aarhus University Hospital, Skejby
[4]Department of Cardiology, Aarhus University Hospital, Skejby

1. Introduction

Changes in cardiac metabolism are involved in the progression of heart failure (HF).

In the clinic PET is the only accessible method for metabolic imaging but involves radioactivity.

A stable, non-radioactive isotope such as ^{2}H (deuterium) with very low natural abundance in the human body would be an ideal tracer for use in human research

Deuterium metabolic imaging (DMI) by mapping ^{2}H-labeled glucose in the brain and liver of animal and human subjects has been published. DMI allowed 3D visualization of in vivo metabolism with technically simple and robust methods that can be implemented on most clinical MRI scanners.

It has not previously been used in studies of the heart.

2. Hypotheses and objectives

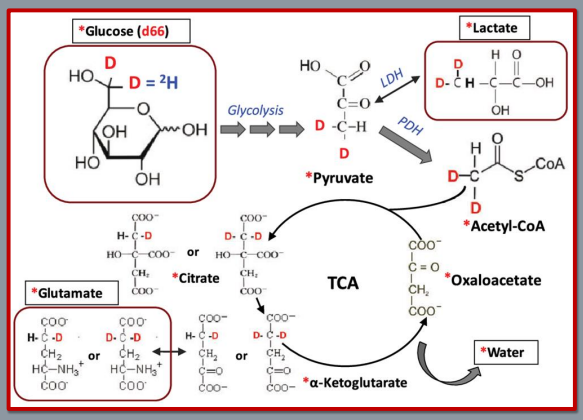
Hypotheses
1. DMI is technically feasible in studies of the human heart.
2. DMI can be used for in vivo-visualisation of altered metabolic fluxes in the heart of patients with CHF.
3 DMI can detect regional alterations in myocardial metabolism in ischemic heart disease.

Objectives
1. To implement DMI in cardiac MRI to non-invasively visualize metabolic fluxes in the human heart.
2. To explore whether DMI can be used to differentiate alterations in cardiac metabolism in patients with CHF.
3. To investigate if DMI can serve as a non-radioactive alternative to fluorine-18 fluorodeoxyglucose PET (^{18}F-FDG-PET) in patients with ischemic heart disease.

3. Methods

The healthy volunteer/patient will drink 200 ml of water containing 75 g of D-[6,6,2H2]-glucose.

After 2 hours magnetic resonance imaging and magnetic resonance spectroscopy are performed.



4. Results

The first successful DMI was performed on the author of this poster and the technique will be optimised during the upcoming months

Correspondence

Ph.d. Student Steen Hylgaard Jørgensen E-mail: s.joergensen@rn.dk
Phone: +45 2262 1137

12. Addition of bulbar biopsies provide an up to 4.9% higher diagnostic yield of upper endoscopy in the diagnosis of celiac disease – a systematic review

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2. Department of Gastroenterology and Hepatology, North Denmark Regional Hospital, Hjoerring, Denmark
3. Department of Clinical Medicine, Aalborg University, Denmark

Background
When diagnosing celiac disease, biopsies are traditionally obtained isolated from the second part of duodenum. However, some patients only have histologic changes in the duodenal bulb, challenging the traditional biopsy strategy.

We hypothesized that the addition of a bulbar biopsy would increase the diagnostic yield of upper endoscopy in celiac disease.

Methods
A systematic search in Pubmed and Embase yielded 67 papers addressing the yield of bulbar biopsies in diagnosing celiac disease in humans. All papers were reviewed by two authors. A subgroup of studies where all patients were HLA-genotyped before endoscopy were analysed separately to examine whether this affected the diagnostic yield of adding bulbar biopsies.

Results
Fourteen papers met the in- and exclusion criteria and were included in the study. In total 2330 patients in these studies were newly diagnosed with celiac disease and 85 patients (26 adults (4.9 %)) and 59 children (3.3 %)) had histopathological changes consistent with a diagnosis of celiac disease exclusively in the duodenal bulb. In a subgroup where all patients were HLA genotyped before endoscopy 1347 patients were included and 17 (1.3 %) patients showed histopathological changes only in the bulb.

Conclusion
The results of the current study suggest that the diagnostic yield of the addition of a bulbar biopsy is as high as 4.9 % in adults and 3.3 % in paediatric patients. We therefore suggest adding a bulbar biopsy when evaluating patients for celiac disease until results from large scale well designed prospective trials are available.

Diagnosing Celiac Disease - Biopsying The Duodenal Bulb?

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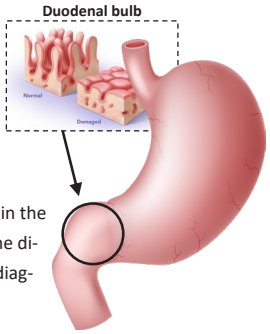
Introduction

The diagnosis of celiac disease can be difficult, especially in cases of patchy disease. Patchiness can show as histologic changes only in the duodenal bulb. A disease entity known as Ultra Short Celiac Disease (USCD).[1,2]

National guidelines recommend 4 biopsies in the second part of duodenum and ≥1 the bulb.[3] Guidelines are not always followed.

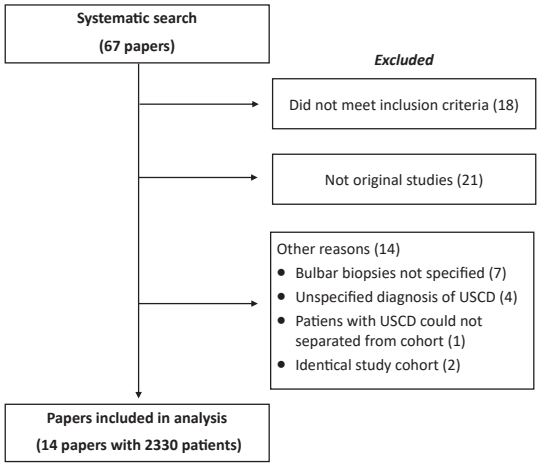


We hypothesized that biopsying in the duodenal bulb would increase the diagnostic yield of gastroscopy in diagnosing celiac disease.

Methods

A systematic PubMed and Medline search based on the following inclusion criteria:

- Papers with celiac disease diagnosis based on relevant symptoms, serologic tests and esophago-gastro-duodenoscopy.
- ≥2 duodenal biopsies (≥1 from bulbus)
- Histological evaluation based on March Criteria



Results

Patients identified from the systematic search:

	Patients with celiac disease	Isolated celiac disease in the duodenal bulb	Diagnostic yield
Adults	531	26	4.9%
Children	1799	59	3.3%
Total	**2330**	**85**	**3.6%**

Should bulbar biopsies be performed?

Advantages

- Avoiding bulbar biopsies may delay diagnosis of USCD
- Undiagnosed patients suffer prolonged symtomatic period as well as complications:
  - Malabsorbtion
  - Infertility
  - Anemia
  - Osteoporosis

Disadvantages

- Difficult pathological interpretation due to histologic differences between the bulb and the second part of duodenum.
- Cost of extra biopsies
- Technically difficult to obtain biopsies in the bulb
- Increased time of gastroscopy and discomfort of the patient

Conclusion

The study finds that:

4.9% of adult patients *and*

3.3% of pediatric patients

will remain undiagnosed if bulbar biopsies are not sampled during gastroscopy.

*We suggest **adding** at least one bulbar biopsy when evaluating patients for celiac disease until results from large scale prospective trials are available*

References

1) Fasano A, Catessi C. Celiac Disease. *N Engl J Med* 2012; 367:2419-2426. **2)** Gonzalez S, Gupta A, Cheng J, Tennyson C, Lewis SK, Bhagat G et al. Prospective study of the role of duodenal bulb biopsies in the diagnosis of celiac disease. *Gastrointest Endosc*. 2010;72(4):758-765. **3)** Dansk Selskab for Gastroenterologi og Hepatologi. Cøliaki: diagnostik, behandling og kontrol. www.dsgh.dk

Conflicts of interest
None to disclose

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Gynækologi/Obstetrik og Pædiatri

13. What do first-time parents think about early discharge? – A mixed method study of the parents perspective

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2. Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark

Background
More hospitals discharge first-time mothers two to four hours after delivery. The Danish Health Board recommendations are:" ... as long as the delivery has been uncomplicated and the family are well prepared and have good resources with good social support and there is sufficient health care service in the region, then the maternity period can take place in the home."
There is little knowledge of the parents perspective.

The objective is 1) to evaluate the parent's perspective on early discharge after delivery and what effects early discharge has to the parents and the new born, 2) to evaluate which factors have influence on the outcome on the mother and new born, if they are discharged early.

Method
The study is a mixed method study, containing 1) Literature review with search in three databases in the period October to November 2019. Both quantitative and qualitative studies are included. 2) Focus group interviews of ten first-time parents respectively before and after delivery, 3) a survey with 400 first-time parents.

Results
The results is presented as they become available and is expected finished at the end of 2022.

Conclusion
This study will optimize the quality and include the parent's perspective on early discharge after delivery and contribute to the research on the field.

What do first-time parents think of early discharge?

– a mixed method study of the parent's perspective

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Department of Gynecology, Pregnancy and Birth, North Denmark Regional Hospital, Hjoerring
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Background

More hospitals discharge uncomplicated first-time mothers and their newborn baby two to four hours after delivery (Hyldal 2018)

The Danish Health Board recommendations are:" ... as long as the delivery has been uncomplicated and the family are well prepared and have good resources with good social support and there is sufficient health care service in the region, then the maternity period can take place in the home." (Sundhedsstyrelsen 2013)

But what do the parents want and what is important to them?

There is litle knowledge of the parent's perspective.

The aim is to evaluate the parent's perspective on early discharge after delivery and what effects early discharge has to the parents and newborn. The aim is also to evaluate which factors have influence on the outcome of mother and newborn if they are discharged early after delivery.

Regions with early discharge for first-time parents

Methods

The study is a mixed method study, containing 1) Literature review with search in three databases in the period october to november 2019. Both quantitative and qualitative studies are included. 2) Focus group interviews of ten first-time parents respectively before and after delivery, 3) A survey with 400 first-time parents.

Fase 1

Part 1, Systematic literature review

Database search, Population
First-time parents with healthy newborns
Intervention
Early discharge within 6 hours after delivery

Outcomes
- Factors that has relevance on the parent's readiness to be discharged
- Factors that has relevance on the parent's satisfaction with early discharge
- Risk of readmission of the newborn or the mother after early discharge
- Breastfeeding duration and prevalence after early discharge

Study selection
- First author and another researcher independently screened all relevant titles and abstracts
- Full text copies were obtained and assessed independently by same authors using the inclusion/exclusion criteria
- Disagreements resolved by discussions & third reviewer consulted when required to reach consensus

Part 2, Focus Group Interviews

Personal interviews with ten first-time parents, five parents with expected early discharge interviewed in pregnancy before delivery and five first-time parents interviewed after early discharge after delivery.

The aim of the Focus Group interviews is to understand what contemporary parents think about early discharge and what is important for the parents. The results will be used together with the results of the Systematic Literature Review as background knowledge to form the questions in the survey to ensure that we ask about all themes that are important or relevant to the parents.

Fase 2

Focus Group Interviews

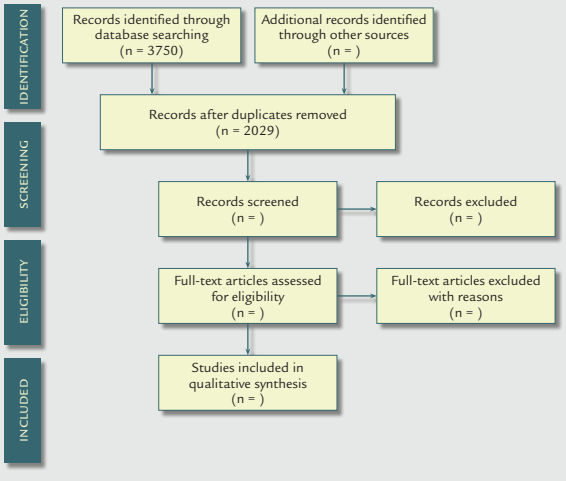
A mixed method survey of 400 first-time parents with expected early discharge after delivery with a semi-structured questionnaire with open-ended questions to elaborate the quantified questions. A survey is send out early in pregnancy, around pregnancy week 36 and after delivery.

Results

The results is presented as they become available and is expected finished at the end of 2022.

Implications

- To optimize the quality and include the parent's perspective on practice.
- To contribute to the research on the field.



NORTH DENMARK REGIONAL HOSPITAL

RHN/MH/1019

14. Urogynecological complaints among women with and without obstetric anal sphincter injuries – incidence and symptoms

Nanne Dreier Mydtskov[1], Lasse Raaberg[1] and Louise Thomsen Schmidt Arenholdt[1,2,3]

1. Department of Gynecology and Obstetrics, North Denmark Regional Hospital, Hjoerring, Denmark
2. Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark
3. Department of Clinical Medicine, Aalborg University, Denmark

Background
Obstetric anal sphincter injuries (OASIS) is a well-known obstetric complication that occurs in 2-6% of all vaginal deliveries. Despite repair, around 50% of women struggle with fecal/urinary incontinence and sexual dysfunction in the years after their injury. Awareness of supporting the perineum during labor at the hospital in Hjørring in 2012, significantly reduced the incidence of OASIS.

Methods
Women who gave birth at the North Denmark Regional Hospital between 2008-2015 was divided into two cohorts: an early (before 2012) and a late (after 2012). Validated questionnaires (St. Marks, ICIQ-UI-SF, ICIQ-VS) regarding fecal/urinary incontinence, vaginal prolapse and sexual dysfunction was filled out by the women. Grade of OASIS, if any, was evaluated by medical records and ICD10 codes. The urogynecological symptoms of the two cohorts were compared to evaluate if support of the perineum also reduces the risk of later urogynecological symptoms. Second, women with 3rd or 4th degree OASIS were compared with women giving birth by scheduled cesarean sections and women with 1st degree OASIS to evaluate whether higher degree of OASIS results in higher risk of later urogynecological symptoms.

Results
No results yet.

Conclusion
We expect to analyze the incidence of OASIS in the labor ward in North Denmark Regional Hospital and to examine the long-term complications connected to OASIS such as fecal/urinary incontinence, prolapse symptoms and sexual dysfunction. We also aim to evaluate whether support of the perineum reduces the risk of urogynecological problems later in life.

UROGYNECOLOGICAL COMPLAINTS AMONG WOMEN WITH OBSTETRIC ANAL SPHINCTER INJURIES

- A FOLLOW-UP STUDY

Nanne Dreier Mydtskov • Lasse Raaberg • Louise Thomsen Schmidt Arenholdt

Department of gynecology and obstetrics, North Denmark Regional Hospital, Hjoerring, Denmark

BACKGROUND

Obstetric anal sphincter injuries (OASIS) is a well-known obstetric complication that occurs in 2-6% of all vaginal deliveries.

Despite repair, around 50% of women struggle with fecal/urinary incontinence and sexual dysfunction in the years after their injury.

Awareness of supporting the perineum during labor at the hospital in Hjørring in 2012, significantly reduced the incidence of OASIS.

METHODS

Women who gave birth at the North Denmark Regional Hospital between 2008-2015 was divided into two cohorts: An early (before 2012) and a late (after 2012).

Validated questionnaires (St. Marks, ICIQ-UI-SF, ICIQ-VS) regarding fecal/urinary incontinence, vaginal prolapse and sexual dysfunction was filled out by the women. Grade of OASIS, if any, was evaluated by medical records and ICD10 codes.

The urogynecological symptoms of the two cohorts were compared to evaluate if support of the perineum also reduces the risk of later urogynecological symptoms. Second, women with 3rd of 4th degree OASIS were compared with women giving birth by scheduled cesarean sections and women with 1st degree OASIS to evaluate whether higher degree of OASIS results in higher risk of later urogynecological symptoms.

RESULT

No results yet.

CONCLUSION

We expect to analyze the incidence of OASIS in the labor ward in North Denmark Regional Hospital and to examine the long-term complications connected to OASIS such as fecal/urinary incontinence, prolapse symptoms and sexual dysfunction.

We also aim to evaluate whether support of the perineum reduces the risk of urogynecological problems later in life.

NORTH DENMARK REGIONAL HOSPITAL

RHN/MH/1019

15. Quality of Life and Sexuality in Danish Women with Lichen Sclerosus

Gitte Vittrup[1], Lisbeth Moerup[1], Tina Heilesen[1], Doris Jensen[1], Signe Westmark[2] and Dorte Melgaard[2]

1. Clinic for Surgery, Women and Child diseases, North Denmark Regional Hospital, Hjoerring, Denmark
2. Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark

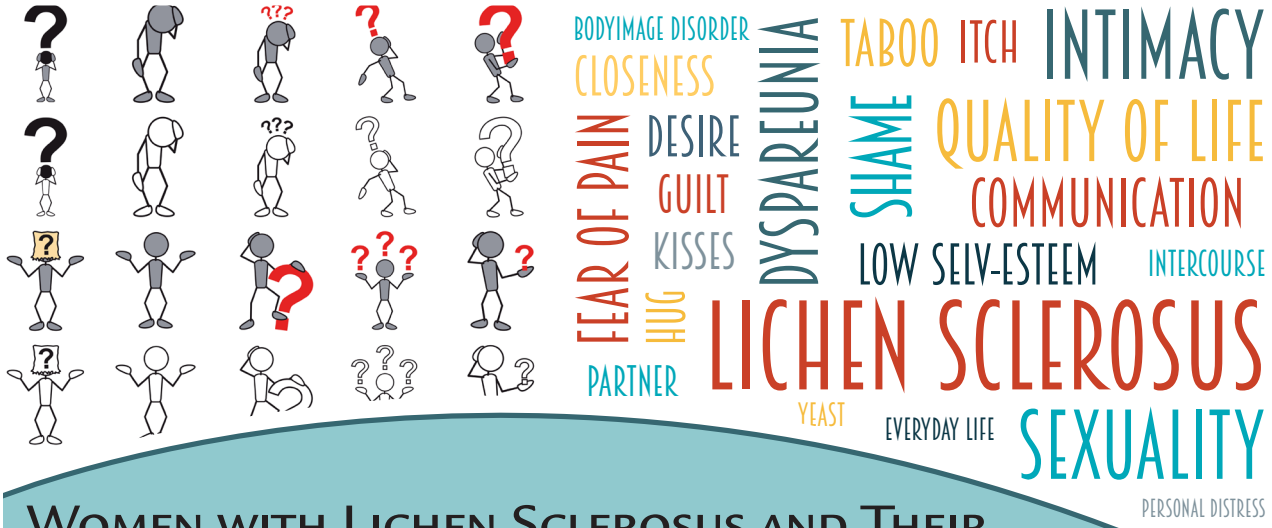
Background
Lichen sclerosus is a chronic autoimmune skin disease affecting the female anogenital area and causing significant modification in the vulva leading to anatomical changes. Reported symptoms include itching, burning sensation, soreness, and dyspareunia.

This study intends to evaluate the quality of life and sexual functioning in women with lichen sclerosus.

Methods
This study includes 140 patients over 18 years of age referred to North Denmark Regional Hospital from 1 January 2018 to 4 July 2019 and recently diagnosed with lichen sclerosus. Informed and written consent was obtained prior to participation. Female Sexual Function Index (FSFI) and Dermatology Life Quality Index (DLQI) were fulfilled.

Results
Median age 52 years [18; 76]. The women presented low score on all FSFI scales with a mean score of 13.64, indicating worse sexual functioning and urgent need for sexual counseling with a cut off score of 26.55. The sub group evaluation scored: desire 2.32; arousal 2.22; lubrication 2.43; orgasm 2.30; satisfaction 2.72; pain 1.66. The results from DLQI revealed a mean score of 7.64 indicating moderate effect on patient's everyday life. The mean sub scores were physical symptoms including 2.47 on feelings; 1.05 on daily activities; 0.99 on leisure; 0.32 on work and school; 2.51 on personal relationships; and 0.30 on treatment.

Conclusion
This study concludes that lichen sclerosus has a considerable influence on women´s sexual functioning and on their quality of life. Health care professionals have to take care of not only biological aspects, but psychological and social aspects, as well.



Women with Lichen Sclerosus and Their Experienced Quality of Life and Sexuality

Vittrup, G.[1,2] • Mørup, L.[1,3] • Heilesen, T.[1] • Jensen, D[1] • Laursen, B.S.[2,4] • Westmark, S.[5] • Melgaard, D.[5]

[1]Clinic for Surgery, Women and Child diseases, North Denmark Regional Hospital • [2]Sexological Centre, Aalborg University Hospital, Denmark • [3]Clinic for Women- and Child Diseases and Urology, Aalborg University Hospital, Denmark
[4]Sexological Research Centre, Aalborg University, Denmark • [5]Center for Clinical Research, North Denmark Regional Hospital, Denmark

Objective

Lichen Sclerosus (LS) is a chronic skin disease affecting the female anogenitale area and causes significant modification in the vulva leading to anatomical changes and narrowing of the vaginal entrance.

Reported symptoms include itching, burning sensation, soreness as well as dyspareunia.

This study intends to evaluate the quality of life and sexual functioning in women recently diagnosed with LS.

Study design

140 women with a median age of 52 years. (18-76 years) participated in the period from 1 January 2018 to 4 July 2019.

They filled in two questionnaires: Female Sexual Function Index (FSFI) and Dermatology Life Quality Index (DLQI).

Results

The women with LS were compared to a same-aged group with healthy controls and presented low score on all FSFI scales, which indicates worse sexual functioning and a cut-off score on 26.55 (fig. 1).

The results from DLQI revealed a mean score of 8 indicating moderate effect on the patients life (fig. 2).

Conclusion

Lichen sclerosus has a considerable influence on the womens sexual functioning and on their quality of life.

In addition, a cut of score on 26.55 indicates an urgent need for sexual counseling.

Health care professionals have to consider not only the biological aspects, but the psychological and the social aspects, as well.

Figure 1: Female Sexual Function Index (FSFI)

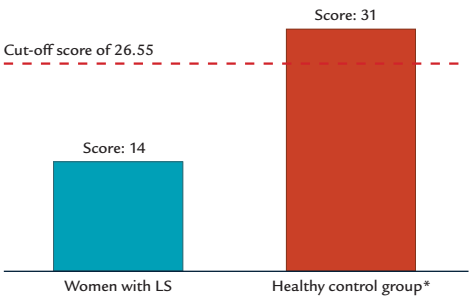
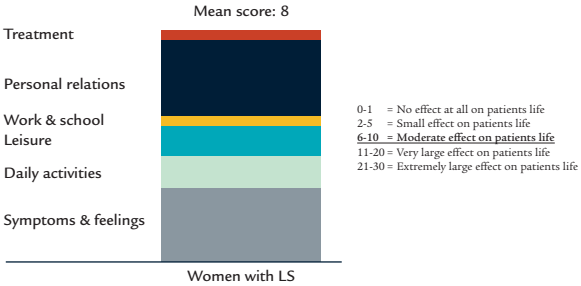


Figure 2: Dermatology Life Quality Index (DLQI)



** Ref. Rosen R. et al., The Female Sexual Function Index (FSFI):A Multidimensional Self-Report Instrument for the Assessment of Female Sexual Function. Jr. of Sex & Marital Therapy. 26, 191-208, 2000*

NORTH DENMARK REGIONAL HOSPITAL

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RH-NJMH/0819

16. RCT study on High intensity interval training as supplement to treatment in obese children and adolescents

Tine Caroc Warner[1], Ulrik T. Baandrup[1], Ronni Jacobsen[2], Henrik Boeggild[3], Lars Henrik Larsen[4], Shellie Ann Boudreau[5], Patrick Simon Aunsholt Oestergaard[1] and Søren Hagstrøm[1,2,6]

1. Center for Clinical Research, North Regional Hospital, Hjoerring, Denmark
2. Department of Pediatrics, Aalborg University Hospital, Denmark
3. Public Health and Epidemiology Group, Health Science and Technology, Aalborg, Denmark University, Denmark and Unit of Epidemiology and Biostatistics, Aalborg University Hospital, Denmark
4. University College Northern Denmark, Department of physiotherapy, Hjoerring, Denmark
5. Center for Neuroplasticity and Pain (CNAP), Department of Health Science and Technolgoy, Aalborg University, Denmark
6. Department of Clinical Medicine, Aalborg University, Denmark

Background
High-Intensity Interval Training (HIIT) seems promising as intervention in treatment of obesity and there is general acceptance of multidisciplinary treatment being best-practice, when dealing with obesity in children and adolescents. Treatment programs targeted obese children and adolescents often lack training as an implemented part and it can be difficult for the child and family to undertake this task themselves.

Methods
By the study we wanted to investigate the effect of HIIT compared to Moderate-Intensity Continuous Training (MICT), when combined with multidisciplinary treatment in obese children and adolescents.

Obese children and adolescents referred for multi-disciplinary treatment in North Jutland were randomized to either HIIT or MICT. Training was performed twice a week for 12 weeks in combination with multidisciplinary treatment at the outpatient clinic. Measures on BMI, BMI-SDS, abdominal circumference (AC), VO2max, blood pressure, biochemical blood markers and free living physical activity were obtained at baseline and after six and 12 weeks.

Results
Thirty participants aged 8-16 years, randomized to either HIIT or MICT, completed the study. HIIT participants reduced BMI by median 1.7 (IQR 2.1)($p<0.01$), BMI-SDS by 0.34 (IQR 0.29)($p<0.01$) and abdominal circumference (AC) by 5.5 cm (IQR 4) ($p=<0.01$) and VO2max increased by 2.35(IQR 5.2). MICT reduced only BMI 0.51 (IQR 2.1)($p=0.048$) and BMI-SDS 0.18 (IQR0.29). Comparing the two groups HIIT elicited greater effects than did MICT on AC and VO2max ($p<0.05$).

Conclusion
HIIT in combination with multidisciplinary treatment improved cardiorespiratory fitness and abdominal circumference greater than did MICT in obese children and adolescents.

RCT study on HIIT as supplement to treatment in obese children and adolescents

T. C. Warner[1,3],R.B. Jacobsen[2], U. T. Baandrup[1], S. Hagstroem[1, 2, 3]
[1]Center of Clinical Research, North Denmark Regional Hospital, [2]Department of Pediatrics, Aalborg University Hospital, Denmark, [3]Department of Pediatrics , North Denmark Regional Hospital

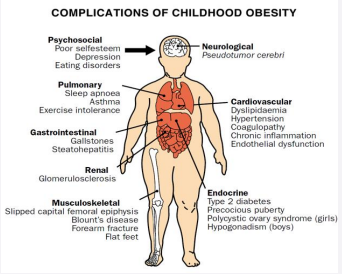
Background:

High-Intensity Interval Training (HIIT) seems promising as intervention in treatment of obesity and there is general acceptance of multidisciplinary treatment being best-practice, when dealing with obesity in children and adolescents. Treatment programs targeted obese children and adolescents often lack training as an implemented part and it can be difficult for the child and family to undertake this task themselves.

Objectives

By the study we wanted to investigate the effect of HIIT compared to Moderate-Intensity Continuous Training (MICT), when combined with multidisciplinary treatment in obese children and adolescents.

Obeseity FACTS:

Denmark	15-20% of Danish children are at school entrance overweight or obese Prevalence rises with age. More than 50% of the adult population is overweight or obese.
Complications	 *Figure 1: Potential complications of childhood obesity. (Reprint from Ebbeling et al, The Lancet, 2002)*

Methods:

Obese children and adolescents referred for multi-disciplinary treatment in North Jutland were randomized to either HIIT or MICT. Training was performed twice a week for 12 weeks in combination with multidisciplinary treatment at the outpatient clinic. Measures on BMI, BMI-SDS, abdominal circumference (AC), VO_2max, blood pressure, biochemical blood markers and free living physical activity were obtained at baseline and after six and 12 weeks.

Results

Thirty participants aged 8-16 years, randomized to either HIIT or MICT, completed the study. HIIT participants reduced BMI by median 1.7 (IQR 2.1)(p<0.01), BMI-SDS by 0.34 (IQR 0.29)(p<0.01) and abdominal circumference (AC) by 5.5 cm (IQR 4) (p=<0.01) and VO2max increased by 2.35(IQR 5.2). MICT reduced only BMI 0.51 (IQR 2.1)(p=0.048) and BMI-SDS 0.18 (IQR0.29). Comparing the two groups HIIT elicited greater effects than did MICT on AC and VO_2max (p<0.05).

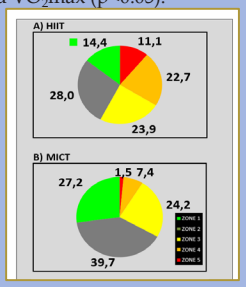


Figure 2: Flowchart describing population and drop-outs.
Figure 3: Adherence to training protocol. Described by time spent in different pulse zones, 1 being lowest, 5 being highest. HIIT (High-Intensity Interval Training), MICT (Moderate-Intensity Continuous Training).

	HIIT	MICT
Demographics and Anthropometrics	0-12 weeks Changescores	0-12 weeks Changescores
BMI	-1.70 (2.1) *	-0.51 (2.1)*
BMI-SDS	-0.34 (0.29) *	-0.18 (0.29) *
Abdominal circumference cm	-5.5 (4) *§	-2 (4)§
Aerobic Capacity		
VO2max ml/min/kg	2.35 (5.2) *§	-0.4 (4.8)§

*Table 1: Baseline and follow up information for obese children and adolescents randomized into two different types of exercise (HIIT or MICT). Numbers are n or median (IQR) * denotes statistical difference within group p<0.05, § denotes statistical difference between groups*

Discussion:

By this study HIIT demonstrated to be better when combining with multidisciplinary treatment compared to MICT with regards to abdominal circumference and VO2max. Compliance to the training was good and training as add on to the outpatient clinic treatment was feasible. As other studies has proven, it cannot be ruled out that BMI and BMI-SDS, blood pressure, sleep, vascular functioning, metabolism, appetite and many more would also benefit from training as e.g. HIIT when dealing with obesity. But larger scale studies would be needed to confirm these findings. Also it would be interesting to investigate the effect on quality of life, since we know from other studies that obesity in childhood is a great burden to the child and many suffer from bullying and depression.

Conclusions

HIIT in combination with multidisciplinary treatment improved cardiorespiratory fitness and abdominal circumference greater than did MICT in obese children and adolescents.

REGIONSHOSPITAL NORDJYLLAND
– i gode hænder

Tine Caroc Warner
M.D. , Ph.D.
Center for klinisk Forskning
Børneafdelingen

AALBORG UNIVERSITY
DENMARK

17. Comparison between BiliCocoon and Conventional Phototherapy in the Treatment of Neonatal Hyperbilirubinemia

Mette Line Donneborg Roed[1,2], Pernille Vandborg[3], Lars Bender[2,4], Tina Møller[4], Helle Haslund Thomsen[4] and Finn Ebbesen[4]

1. Department of Pediatrics, North Denmark Regional Hospital, Hjoerring, Denmark
2. Department of Clinical Medicine, Aalborg University, Denmark
3. Department of Pediatrics, Viborg Regional Hospital, Denmark
4. Department of Pediatrics, Aalborg University Hospital, Denmark

Background
The treatment of choice for neonatal hyperbilirubinemia is phototherapy. Around 2 to 6% of term newborn infants are treated with phototherapy. Conventional phototherapy today is single phototherapy from above. A new device has been developed recently, the BiliCocoon, which has several theoretical advantages: the infants are wrapped making them more comfortable, they can breastfeed while receiving phototherapy and a larger surface area is illuminated.

The objective is to determine the efficacy of the BiliCocoon compared to conventional phototherapy from above, measured in the decrease in total serum bilirubin concentration during 24 hours of phototherapy. Also, to determine comfort for the infant, the parents and the nurses using questionnaires.

Methods
A randomized controlled, unblinded multicenter trial including otherwise healthy hyperbilirubinemic infants without signs of hemolytic disease requiring phototherapy with gestational age ≥33 weeks, birth weight ≥1800 gram, postnatal age between 24 hours and 24 days. Infants either receiving phototherapy from above or BiliCocoon with equal irradiance for 24 hours. Total serum bilirubin concentration will be measured at start and after 24 hours of phototherapy. Questionnaires concerning comfort of the devices will be completed by the parents and nurses. A power calculation has showed that at least 36 infants are required in each group to detect a difference of 6 percentage points in the decrease in total serum bilirubin.

Results
None yet.

Conclusion
If the BiliCocoon is more effective in treating hyperbilirubinemic infants and is comfortable for infants, parents and nurses, we expect this phototherapy device to be used often in the future.

Comparison between BiliCocoon and Conventional Phototherapy in the Treatment of Neonatal Hyperbilirubinemia

Mette Line Donneborg Roed[1,2], Pernille Kure Vandborg[3], Lars Bender[2,4], Tina Møller[4], Helle Haslund Thomsen[4] and Finn Ebbesen[4]

Background

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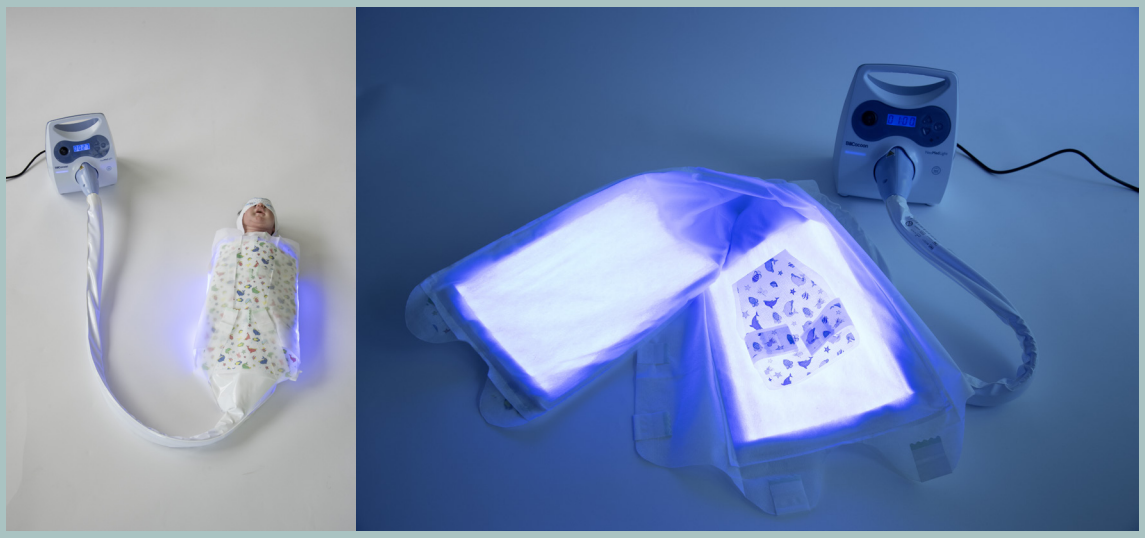
The objective is to determine the efficacy of the BiliCocoon compared to conventional phototherapy from above, measured in the decrease in total serum bilirubin concentration during 24 hours of phototherapy. Also, to determine comfort for the infant, the parents and the nurses using questionnaires.

Methods

A randomized controlled, unblinded multicenter trial conducted at The North Denmark Regional Hospital, Hjørring, Viborg Regional Hospital and Aalborg University Hospital. Including otherwise healthy hyperbilirubinemic infants without signs of hemolytic disease requiring phototherapy with gestational age ≥33 weeks, birth weight ≥1800 gram, postnatal age between 24 hours and 14 days. Infants either receiving phototherapy from above or BiliCocoon with equal irradiance for 24 hours. Total serum bilirubin concentration will be measured at start and after 24 hours of phototherapy. Questionnaires concerning comfort of the devices will be completed by the parents and nurses. A power calculation has showed that at least 36 infants are required in each group to detect a difference of 6 percentage points in the decrease in total serum bilirubin.

Results

None yet.



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1. Department of Pediatrics, North Denmark Regional Hospital, Hjoerring, Denmark
2. Department of Clinical Medicine, Aalborg University, Aalborg, Denmark
3. Department of Pediatrics, Viborg Regional Hospital, Viborg, Denmark
4. Department of Pediatrics, Aalborg University Hospital, Aalborg, Denmark

NORTH DENMARK REGIONAL HOSPITAL

18. Characterization of the urinary microbiota of healthy prepubertal children

Lea Fredsgaard[1,2], Kristina Thorsteinsson[1,2], Caspar Bundgaard-Nielsen[1], Nadia Ammitzbøll[1], Peter Leutscher[1,2], Qing Chai[3], Suzette Sørensen[1,2], Lia M. Pedersen[1,4], Søren Hagstrøm[1,2,4], Louise T.S. Arenholt[1,2,5]

1. Centre for Clinical Research, North Denmark Regional Hospital, Denmark
2. Department of Clinical Medicine, Aalborg University, Denmark
3. Department of Pediatrics, North Denmark Regional Hospital, Denmark
4. Department of Pediatrics, Aalborg University Hospital, Denmark
5. Department of Obstetrics and Gynecology, North Denmark Regional Hospital, Denmark

Background
In the recent years, it has been established that the urine of a healthy adult bladder contains a microbiota, and that dysbiosis of this urinary microbiota may be involved in development of urinary tract diseases. The aim of this study was to determine whether a urinary microbiota exists in children and how this is composed.

Methods
Clean-catch midstream urine samples of 30 healthy prepubertal children (15 boys and 15 girls) were assessed by 16S rRNA gene sequencing of the region V4. All the children had normal bladder function, and urine samples were negative for bacteria by standard urine culture test.

Results
Bacterial DNA was detected in all urine samples. The urinary microbiota differed significantly between boys and girls in terms of operational taxonomic unit richness, Shannon Index, and relative abundances of the most abundant genera. The urine of boys was dominated by the *Porphyromonas* genus, and to a lesser extent *Ezakiella, Campylobacter, Prevotella*, and *Dialister*. *Prevotella* was the genus with the highest relative abundance in girls followed by *Porphyromonas, Ezakiella, Prevotella 6*, and *Dialister*.

Conclusion
Clean-catch midstream urine samples of healthy prepubertal children are not sterile, and the composition of the urinary microbiota differs significantly between boys and girls at the prepubertal stage. The most abundant genera of midstream urine samples in urine from children are different from those reported in similar samples from adults.

CHARACTERIZATION OF THE URINARY MICROBIOTA OF HEALTHY PREPUBERTAL CHILDREN

Lea Fredsgaard[1,2], Kristina Thorsteinsson[1,2], Caspar Bundgaard-Nielsen[1], Nadia Ammitzbøll[1], Peter Leutscher[1,2]
Qing Chai[3], Suzette Sørensen[1,2], Lia M. Pedersen[1,4], Søren Hagstrøm[1,2,4], Louise T.S. Arenholt[1,2,5]

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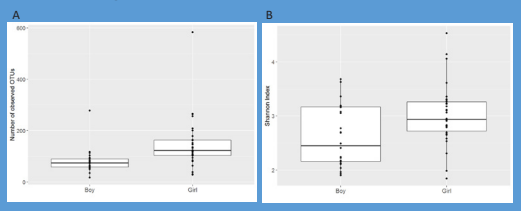

*Comparison of genders. A: OTU richness. The x-axis shows the gender groups (boys and girls), and the y-axis shows the OTU richness of the groups. The OTU richness is significantly higher among girls. *: P<0.05. B: shannon index. The x-axis shows the gender groups, and the y-axis the index of the samples. The index of boys is significantly lower than that of girls, which means that the evenness of girls is higher. *:P<0.05.*

The urine of boys was dominated by the *Porphyromonas* genus, and to a lesser extent *Ezakiella*, *Campylobacter*, *Prevotella,* and *Dialister*. *Prevotella* was the genus with the highest relative abundance in girls followed by *Porphyromonas*, *Ezakiella, Prevotella 6*, and *Dialister (C).*

C

	Girl	Boy	
Bacteroidetes; Porphyromonas	12.9	22.4	*
Bacteroidetes; Prevotella	18.2	8.6	*
Firmicutes; Ezakiella	8.1	12	*
Epsilonbacteraeota; Campylobacter	4.6	11.6	*
Firmicutes; Dialister	7	3.7	*
Bacteroidetes; Prevotella 6	7.4	1.6	*
Firmicutes; Peptoniphilus	3.4	2.5	*
Firmicutes; Lactobacillus	0.9	1.7	
Actinobacteria; Corynebacterium 1	1.8	0.4	*
Firmicutes; Anaerococcus	1.9	0.1	*
Synergistetes; Jonquetella	0.8	1.1	*
Fusobacteria; Sneathia	1.8	0	
Coprothermobacteraeota; Coprothermobacter	1.7	0.1	*
Proteobacteria; f__Neisseriaceae_OTU_29	0.6	1.1	
Synergistetes; Pyramidobacter	1.1	0.5	*
Proteobacteria; Delftia	0.8	0.7	
Actinobacteria; Varibaculum	0.7	0.8	
Proteobacteria; Achromobacter	0.5	0.9	
Actinobacteria; Actinotignum	0	1.3	*
Patescibacteria; bacterium	0.7	0.6	

*Figure C: Heatmap of the most abundant genera from the gender groups. Red indicates a higher relative abundance, while blue indicates a lower relative abundance. Several genera differ significantly in relative abundance. *: P>0.01 (adjusted).*

Conclusions

Clean-catch midstream urine samples of healthy prepubertal children are not sterile, and the composition of the urinary microbiota differs significantly between boys and girls at the prepubertal stage. The most abundant genera of midstream urine samples in urine from children are different from those reported in similar samples from adults.

1: Centre for Clinical Research, North Denmark Region
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4: Department of Pediatrics, Aalborg University Hospital
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NORTH DENMARK REGIONAL HOSPITAL

AALBORG UNIVERSITY
DENMARK

Kirurgi og Anæstesiologi

19. Prevalence of dysphagia in abdominal surgical patients

Ditte Boll[1], Signe Westmark[2], Mark Westergaard[3] and Dorte Melgaard[2]

1. Department of Surgery, North Denmark Regional Hospital, Hjoerring, Denmark
2. Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring Denmark
3. Department of Physio- and Occupational Therapy, North Denmark Regional Hospital, Hjoerring, Denmark

Background
There is limited to no focus on dysphagia after abdominal surgery.

The aims of this study were 1) to assess the prevalence of dysphagia among patients after abdominal surgery, and 2) to evaluate whether a water swallow test (WST) is a reliable screening method for this purpose.

Methods
From 19 November 2018 to 12 April 2019, patients operated for e.g. intestinal resection, stoma, ileus and colectomy at North Denmark Regional Hospital were included in this study. The patients were screened with the WST within 24 hours after surgery. The WST consists of a test with 5 ml and 60 ml water and was performed by a nurse. Positive signs of aspiration by the WST issued a referral to a trained occupational therapist who tested the patient using Volume Viscosity Swallow Test (V-VST) and Minimal Eating Observation Form-II (MEOF-II) within 24 hours after WST screening. Data were collected and managed using Research Electronic Data Capture hosted at North Denmark Region.

Results
In total, 78 were screened with a mean age of 62.3 years (18; 88), and 55.1% were women. The prevalence of dysphagia by WST was 8% (n=6). The WST results were confirmed by V-VST and MEOF-II in the six patients screened positive.

Conclusion
This study demonstrates a relative low prevalence of dysphagia in abdominal surgical patients, indicating limited need for screening for dysphagia in this group of patients. The relatively low prevalence of dysphagia may also indicate a moderately low sensitivity of the WST performed by nurses, which confirms previous studies.

Prevalence of dysphagia in abdominal surgical patients

Westergaard, Mark[1] • Boll, Ditte[2] • Westmark, Signe[3] • Melgaard, Dorte[3]

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INTRODUKTION

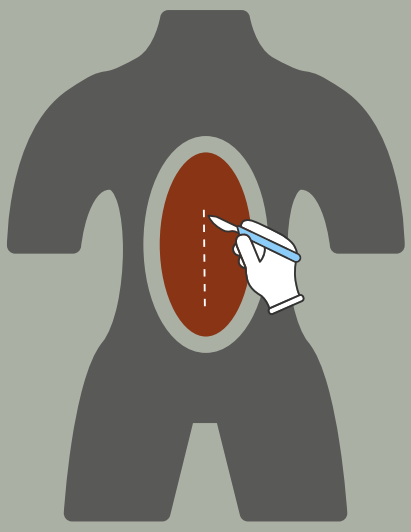
There is limited to no focus on dysphagia after abdominal surgery. The aims of this study were 1) to assess the prevalence of dysphagia among patients after abdominal surgery, and 2) to evaluate whether a water swallow test (WST) is a reliable screening method for this purpose.

MATERIAL AND METHODS

From 19th of November 2018 to 12th of April 2019, patients operated for e.g. intestinal resection, stoma, ileus and colectomy at North Denmark Regional Hospital were included in this study. An exclusion criteria was ventricular probe. The patients were screened with the WST within 24 hours after surgery. The WST consists of a test with 5 ml and 60 ml water and was performed by a nurse. The signs for aspiration were an airway response (cough) or a voice change. Positive signs of aspiration by the WST issued a referral to a trained occupational therapist who tested the patient using Volume Viscosity Swallow Test (V-VST) and Minimal Eating Observation Form-II (MEOF-II) within 24 hours after WST screening. Data were collected and managed using Research Electronic Data Capture hosted at North Denmark Region.

RESULTS

In total, 78 were screened with a mean age of 62.3 years (18; 88), and 55.1% were women. The prevalence of dysphagia by WST was 8% (n=6). The WST results were confirmed by V-VST and MEOF-II in the six patients screened positive.



DISCUSSION

This study demonstrates a relative low prevalence of dysphagia in abdominal surgical patients, indicating limited need for screening for dysphagia in this group of patients. The relatively low prevalence of dysphagia may also indicate a moderately low sensitivity of the WST performed by nurses, which confirms previous studies.

RHN/MH/0819

NORTH DENMARK REGIONAL HOSPITAL

20. Evaluation of referral practice to advanced endoscopic mucosal resection (EMR) in patients with complex colorectal neoplasia – a retrospective study

Jurate Valciukiene[1], Saulius Palubinskas[1,2], Arnas Ugianskis[1,2], Peter Derek Christian Leutscher[3,4] and Lasse Pedersen[4]

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Background
Over 90% of colorectal cancer develops over a long period arising from premalignant adenomas, which can be managed endoscopically in most cases. However, patients, diagnosed with large (>20 mm) or complex (challenging location, suspected submucosal invasion) colorectal polyps are preferable referred to an expert colonoscopy centre for a removal using the endoscopic mucosal resection (EMR) technique. We aimed to evaluate the current practice of patients' referral to advanced-EMR and to assess outcome of the procedure.

Methods
Endoscopical and histopathological findings by primary colonoscopy of patients with large or complex polyps were compared to the same categories of findings by an advanced-EMR procedure performed subsequently in an EMR referral centre. Indication for referral to advanced-EMR was reviewed for each patient. Complete resection rate and residual or recurrent adenoma rate were identified at follow-up colonoscopy. Moreover, EMR-associated complications and surgical management following EMR rates were also assessed.

Results
We expect that the study will provide an estimate of patients referred to advanced-EMR procedure, who does not fully meet the existing criteria for referral. Higher complete resection rates are expected in en-bloc EMRs, while increased residual adenoma rates are likely to be found in greater than 40 mm polyps and using piecemeal technique. Moreover, we do also expect the rate of EMR-associated complications to be low.

Conclusion
An EMR-training program of colonoscopists, especially in regional hospitals may enable a more correct evaluation of endoscopical findings and safe removal of up to 25 mm polyps during primary colonoscopy. In addition, the study aim for an evaluation of local guidelines on endoscopical tumor resection in order to elaborate clear standardized guidelines for a referral of patients with complex colorectal neoplasia to advanced-EMR.

REGION NORDJYLLAND
– i gode hænder

Evaluation of referral practice to advanced endoscopic mucosal resection (EMR) in patients with complex colorectal neoplasia – a retrospective study

Jurate Valciukiene[1], Saulius Palubinskas[1,2], Arnas Ugianskis[1,2],
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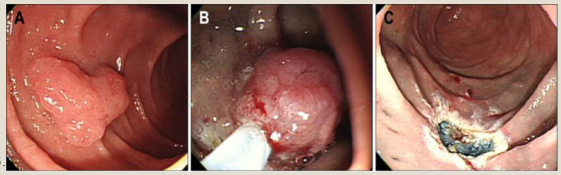

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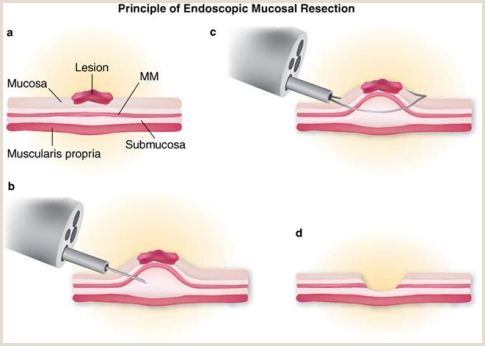

METHODS

Endoscopical and histopathological findings by primary colonoscopy of patients with large or complex polyps were compared to the same categories of findings by an advanced-EMR procedure performed subsequently in an EMR referral centre. Indication for referral to advanced-EMR was reviewed for each patient. Complete resection rate and residual or recurrent adenoma rate were identified at follow-up colonoscopy. Moreover, EMR-associated complications and surgical management following EMR rates were also assessed.

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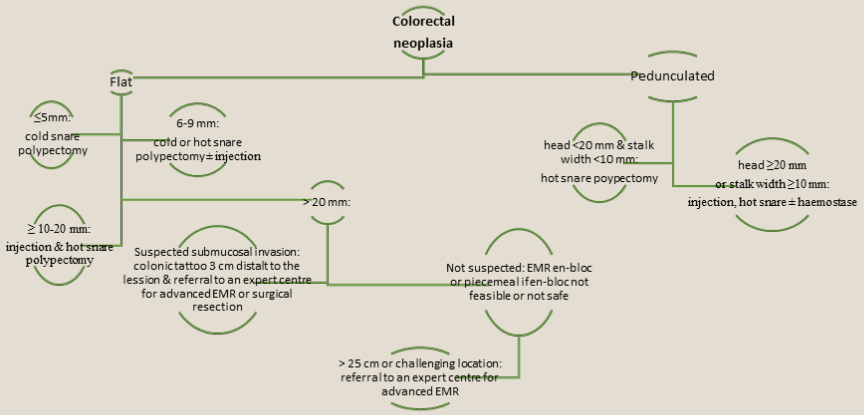

CONCLUSIONS

An EMR-training program of colonoscopists, especially in regional hospitals may enable a more correct evaluation of endoscopical findings and safe removal of up to 25 mm polyps during primary colonoscopy. In addition, the study aim for an evaluation of local guidelines on endoscopical tumor resection in order to elaborate clear standardized guidelines for a referral of patients with complex colorectal neoplasia to advanced-EMR.

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21. Intravenous iron, a postoperative treatment in orto-geriatric patients with acute hip fracture – a prospective comparative study

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2. Northern Orthopedic Division, Aalborg University Hospital, Clinic Hjoerring, Denmark
3. Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark

Background
Anaemia is a consequence of hip fracture in orto-geriatric patients, and is associated with postoperative morbidity, mortality and postoperative nosocomial infections. To avoid the risks of postoperative anaemia, severe anaemia is treated with allogenic blood transfusions as standard therapy. Patients with moderate anaemia are treated more randomly with oral or intravenous iron supplements. Studies documents intravenous iron therapy to be a safe and efficient treatment of anaemia. The aim of this study is to determine the efficacy of postoperative intravenous iron isomaltoside therapy to patients after hip fracture surgery.

Methods
Data from 400 orto-geriatric patients registered in the Danish clinical quality database for hip fracture patients will be included. A local guideline is incorporated from 1st May 2019, recommending systematic treatment with intravenous iron isomaltoside, to patients with haemoglobin level at 6.5 or less, at day 3 after hip fracture surgery at the North Denmark Regional Hospital. 200 patients operated before 1st May, 2019 and 200 patients operated after 1st August 2019 will be included. Data on: Haemoglobin level on admission, day 1 and 3 after surgery, length of stay, readmission, 30 days mortality, comorbidity, postoperative infections, and number of patients treated with intravenous iron isomaltoside and/or allogenic blood transfusions will be collected.

Results
Preliminary results will be presented at the symposium.

Conclusion
This study may contribute to a new national 'common practice' in how to treat anaemia in orto-geriatric patients undergoing hip fracture surgery, reducing the frequency of allogenic blood transfusions, postoperative infections, length of stay and improving 30 day mortality.

Intravenous Iron

a postoperative treatment in ortho-geriatric patients with acute hip fracture

- a prospective comparative study

Torp Hansen, Lene[1] • Kjær Larsen, Lis[2] • Metz Mørch, Marianne[1] • Cavallius, Christian[2] • Melgaard, Dorte[3]

[1]Geriatric Department, North Denmark Regional Hospital, Hjoerring, Denmark
[2]Northern Orthopedic Division, Aalborg University Hospital, Clinic Hjoerring, Denmark
[3]Center for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark

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Results

Preliminary results shows that out of 32 patients, 63% of the women and 40% of the men meet the criteria for intraveneous iron isomaltoside transfusion, measured by haemoglobin level at day 3 after hip fracture surgery.

Figure 1 - Female patients. Haemoglobin level day 3 after surgery.

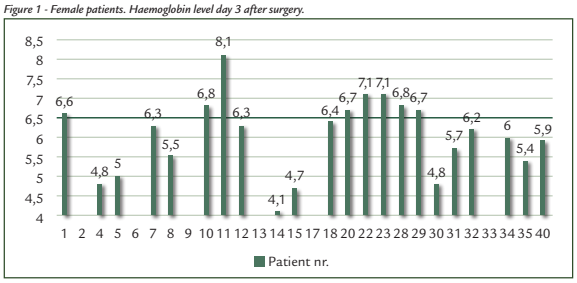
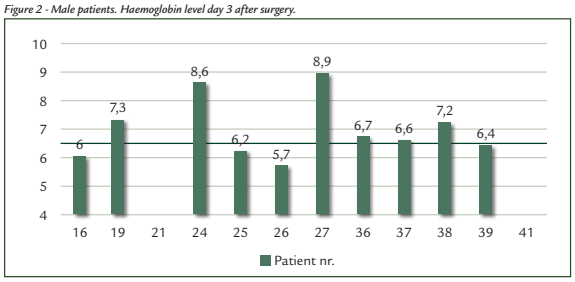
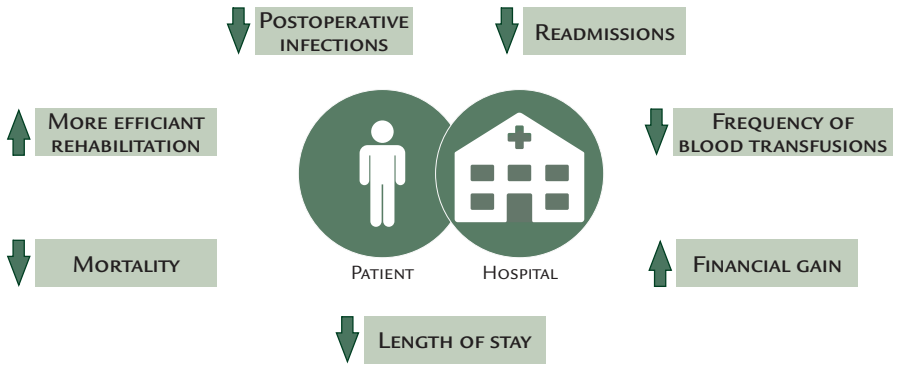


Figure 2 - Male patients. Haemoglobin level day 3 after surgery.



This study may contribute to a new national 'common practice' in how to treat anaemia in ortho-geriatric patients undergoing hip fracture surgery, reducing the frequency of allogenic blood transfusions, postoperative infections, length of stay and improving 30 day mortality. Preliminary results will be presented at the symposium.



NORTH DENMARK REGIONAL HOSPITAL

RHN/MH/1019

22. Influence of performing fiberoptic endoscopic evaluation of swallowing in the intensive care unit before tracheostomy decannulation

Kamilla Thim[1], Therese Eiersted[1], Mark Westergaard[2], Signe Westmark[3] and Dorte Melgaard[3]

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Background
Aspiration in intensive care unit (ICU) patients causes prolonged length of stay and has health economic consequences. In Denmark, there is no standard for testing for dysphagia with fiberoptic endoscopic evaluation of swallowing (FEES).

The aim of this study is to evaluate the effect of performing FEES before tracheostomy decannulation.

Methods
A cross sectional intervention study was conducted from January 2017 to December 2018. 12 patients (66.7% men, mean age 71.42 years) hospitalised in the ICU and receiving FEES before decannulation were included in the intervention group. The intervention group was compared to a control group (n=12) comparable to gender, age (±6 years) and reason for admission, but no FEES was performed on this group of patients. The two groups were compared according to length of stay, mortality rates, pneumonia and re-admittance in the ICU.

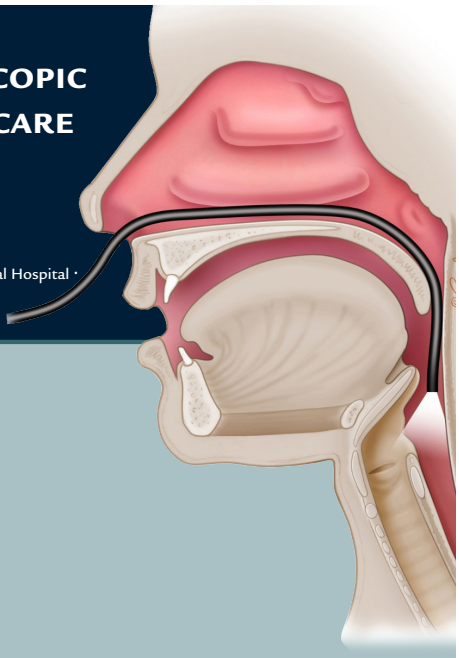
Results
The present study documented a reduced frequency of aspiration pneumonia in the intervention group compared to the control group. At the same time, the length of stay is higher in the intervention group. According to mortality rates and re-admittance in the ICU there was no difference.

Conclusion
This study confirms other studies documenting that FEES before decannulation of patients in the ICU can reduce the risk for aspiration pneumonia. The sample size is small and to generate evidence about the effect of performing FEES in ICU patients in Denmark a larger study is needed.

Influence of performing fiberoptic endoscopic evaluation of swallowing in the intensive care unit before tracheostomy decannulation

Thim, Kamilla[1] • Eiersted, Therese[1] • Westergaard, Mark[2] • Westmark, Signe[3] • Melgaard, Dorte[3]

[1]University College of Northern Denmark · [2]Physio- and Occupational Therapy Department, North Denmark Regional Hospital · [3]Centre for Clinical Research, North Denmark Regional Hospital



Introduction

Aspiration in intensive care unit (ICU) patients causes severe co-morbidity and prolonged length of stay (LOS), and has health economic consequences. In Denmark, there is no standard for testing for dysphagia with fiberoptic endoscopic evaluation of swallowing (FEES). The aim of this study is to evaluate the effect of performing FEES before tracheostomy decannulation, according to LOS, mortality rates, pneumonia and re-admission in the ICU.

Methods

A cross sectional intervention study was conducted. In the period from January 2017 to December 2018, 12 patients (66.7% men, mean age 71.42 years) hospitalised in the ICU and receiving FEES before decannulation were included in the intervention group. The intervention group was compared to a control group (n=12) comparable to gender, age (±6 years) and reason for admission, but no FEES was performed on this group of patients. The analysis process includes statistical analysis by using Mann-Whitney test for metric data.

Results

The present study documented a reduced frequency of aspiration pneumonia in the intervention group compared to the control group (figure 1). At the same time, the LOS is higher in the intervention group. According to mortality rates and re-admission in the ICU there was no difference.

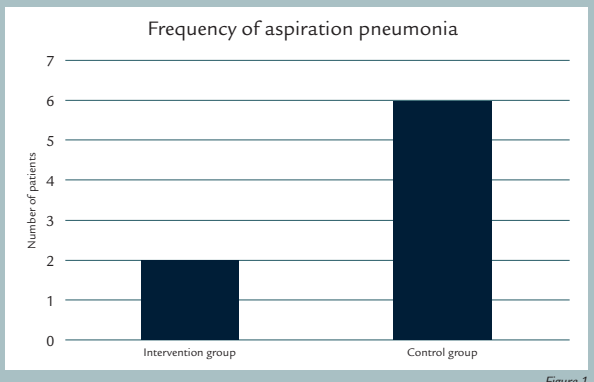


Figure 1

Conclusions

This small study confirm other studies documenting that FEES before decannulation of patients in the ICU can reduce the risk for aspiration pneumonia. The results in this study is based on the small sample size combined with the complexity in patients in ICU, and the fact that the group of patients tested with FEES may be the frailest patients. To generate evidence about the effect of performing FEES in ICU patients in Denmark a larger study is needed.

NORTH DENMARK REGIONAL HOSPITAL

RHN/MH/0819

23. Hvilken indflydelse har tubestørrelse på patientens oplevelse af ondt i halsen og hæshed efter intubation i forbindelse med operation?

Pia Christiansen[1], Signe Westmark[2], Lillian Odder[1], Caroline Hornnes Pedersen[3], Jette Præstholm Riisager[3], Kjeld Damgaard[3], Hansjürg Selter[1] og Dorte Melgaard[2]

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3. Klinik Anæstesi, Regionshospital Nordjylland, Hjørring, Danmark

Baggrund
For patienten i generel anæstesi er en fri luftvej af vital betydning. Studier viser, at ondt i halsen og/eller hæshed efter intubation er et ofte forekommende problem. Studier er uenige, om der er forskel på kvinders og mænds oplevelse af generne.

Formålet med studiet er at undersøge 1) hvor mange der oplever ondt i halsen eller hæshed efter intubation, 2) at klarlægge om der er forskel mellem mænd og kvinders oplevelse af generne.

Metoder
Studiet gennemføres på Universitetshospital Aalborg, Thisted og Regionshospital Nordjylland, Hjørring i perioden 01.02.2019 – 06.09.19.
Oplevelsen af ondt i halsen og hæshed måles ud fra 4-punkts Likert Skala ved hjælp af spørgeskema ½ time før og ½ time efter anæstesi. Desuden indsamles følgende data: alder, køn, BMI, ryger, SARI-score samt ASA gruppe.

Resultater
102 patienter er inkluderet (69,6 % kvinder). For kvinder er gennemsnitsalderen 45,7 år (19;75) med en gennemsnits BMI på 27,6. 66 % ryger ikke. 52 % er ASA I og 69 % scorer 0 i SARI. 27 % føler mild til moderat smerte og 44 % føler mild til moderat hæshed efter anæstesi. For mændene er gennemsnitsalderen 60,4 år (45;80) med en gennemsnits BMI på 27,4. 64,5% ryger ikke. 39 % er ASA I og 68 % scorer 0 i SARI. 23 % føler mild til moderat smerte og 45 % føler mild til moderat hæshed efter anæstesi.

Konklusion
Ca. hver 4. patienter oplever mild til moderat smerte i halsen efter intubation i forbindelse med elektiv kirurgi og anæstesi.

HVILKEN INDFLYDELSE HAR TUBESTØRRELSE PÅ PATIENTENS OPLEVELSE AF ONDT I HALSEN OG HÆSHED EFTER INTUBATION I FORBINDELSE MED ELEKTIV OPERATION?

Pia Christiansen[1], Signe Westmark[2], Lillian Odder[1], Caroline Hornnes Pedersen[3], Jette Præstholm Riisager[3], Kjeld Damgaard[3], Hansjörg Selter[1], Dorte Melgaard[2]

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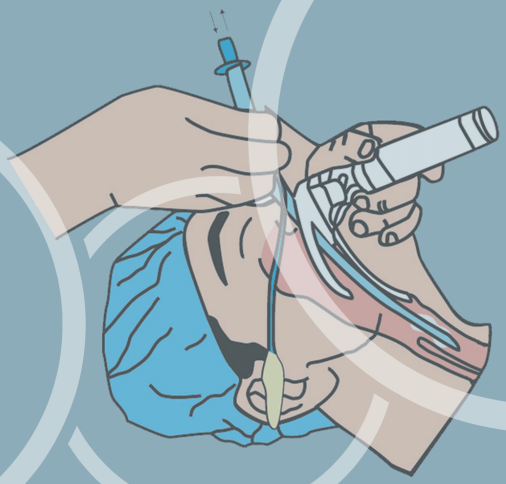
[3] Klinik Anæstesi, Regionshospital Nordjylland, Hjørring

BAGGRUND

For patienten i generel anæstesi er en fri luftvej af vital betydning. Studier viser, at ondt i halsen og/eller hæshed efter intubation er et ofte forekommende problem. Der er ikke entydig evidens for, om der er forskel på kvinders og mænds oplevelse af generne efter intubation.

Formålet med studiet er at undersøge 1) hvor mange der oplever ondt i halsen eller hæshed efter intubation, 2) at klarlægge om der er forskel mellem mænd og kvinders oplevelse af generne.



METODE

I perioden 01.02.2019 – 10.09.2019 er studiet gennemført på Universitetshospital Aalborg, Thisted og Regionshospital Nordjylland, Hjørring, Patienterne er fortløbende inkluderet ud fra faste inklusions- og eksklusionskriterier.

Oplevelsen af ondt i halsen og hæshed måles ud fra 4-punkts Likert Skala ved hjælp af et ikke standardiseret spørgeskema ½ time før og ½ time efter anæstesi. Desuden indsamles følgende data: alder, køn, Body Mass Index (BMI), ryger, Simplified Airway Risk Index (SARI) samt American Society of Anaesthesiologists (ASA) gruppe.

RESULTATER

102 patienter er inkluderet 69,6 % kvinder og 30,4% mænd.

	Alle patienter N=102	Kvinder N=71	Mænd N=31
Gennemsnits alder	50,2 år (19;80)	45,7 år (19;75)	60,4 år (45;80)
Gennemsnits BMI	27,5	27,6	27,4
Ryger	32%	32%	32%
ASA I	48%	52%	39%
SARI 0	69%	69%	68%
Smerte (½ time efter anæstesi)			
Ingen smerter	72%	70%	74%
Mild smerte	22%	21%	23%
Moderat ondt	4%	6%	0%
Alvorlig ondt	0%	0%	0%
Hæs (½ time efter anæstesi)			
Ingen hæshed	53%	52%	55%
Mild hæshed	36%	34%	42%
Moderat hæshed	8%	10%	3%
Alvorlig hæshed	0%	0%	0%

KONKLUSION

Resultatet viser, at ingen patienter oplever svær smerte, mens ca. hver 4. patient , der har været intuberet oplever mild til moderat smerte i halsen ½ time efter anæstesi og næsten hver 2. patient oplever hæshed ½ time efter anæstesi.

Derudover antyder resultatet, at der ikke er forskel på oplevelsen af smerte og hæshed blandt mænd og kvinder.

REGION NORDJYLLAND
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AALBORG UNIVERSITETSHOSPITAL
– i gode hænder

24. The effect of cooling on the stability of venous blood gas values

Mette Pedersen[1], Mads Lumholdt[2], Kjeld Damgaard[1]

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2. Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark

Background
Blood gas values reveal important information of the respiratory, circulatory and metabolic state of the critically ill patient. Blood gas samples are usually analysed instantly without any storage.

Our aim was to examine how cooling affects the stability of venous blood samples within a two-hour test period.

Methods
From each of ten healthy participants we obtained 16 venous blood samples giving a total of 160 samples. Sampling was done through a venous catheter (18G) in the elbow flexion using a three-way-stopcock. All 16 samples were taken within five minutes and either wrapped in separate ice bags (Easy Ice Cold Pack) or kept at room temperature. The first and last obtained samples were analysed at time 0 and used as reference, followed by a cooled and temperate sample analysed every 15 minutes to a maximum of two hours. All samples were analysed for pO_2, pCO_2, HCO_3, glucose and lactate using an ABL Flex blood gas analyser. The Danish Research Ethics Committee approved the project.

Results
Fluctuations during the time course of both cooled and uncooled values of pO_2, pCO_2, HCO_3 and glucose remain within acceptable ranges in the clinical settings. Comparing cooled and temperate samples, pO_2 is unaffected (paired Student t test; $p=0.48$), while HCO_3 and glucose are significantly increased (paired Student t test; $p<0.001$, $p<0.001$), and pCO_2 and lactate are decreased in the cooled samples (paired Student t test; $p<0.001$, $p<0.001$). In the case of lactate, cooling both delays an otherwise instantaneously increase for one hour and decelerates the progression.

Conclusion
Cooling significantly affects CO_2, HCO_3 and glucose, however, the effects are clinically irrelevant. Consequently, venous blood gas values are accepted as stable in a two-hour test period with or without cooling. Lactate increases with time where cooling significantly delays and reduces this increase.

SSAI CONGRESS 2019

THE EFFECT OF COOLING ON THE STABILITY OF VENOUS BLOOD GAS VALUES

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[2]Centre for Clinical Research, North Denmark Regional Hospital, DK-9800 Hjørring, Denmark.

BACKGROUND

Blood gas values reveal important information of the respiratory, circulatory and metabolic state of the critically ill patient. Blood gas samples are recommended to be analysed instaly and, if necessary, stored no longer than 30 minutes. A challenging clinical setting as the intensive care unit prioritises life-saving tasks. Consequently, blood gas samples may be left unanalysed resulting in re-obtained samples from the patients.
The limited recommendations regarding storage of blood gas samples impede their use in other settings, e.g. the pre-hospital setting.

Our aim is to examine how cooling affects the stability of venous blood gas samples within a two-hour test period.

METHOD

From each of ten healthy participants we obtained 16 venous blood gas samples giving a total of 160 samples. Sampling was done through a venous catheter (18G) in the elbow flexion using both accesses of a three-way stopcock. Samples were obtained in 1.8 mL heparinised PICO safe blood gas syringes. All 16 samples were taken within five minutes and either wrapped in separate ice bags (Easy Ice Cold Pack) or kept at room temperature.

The first and last obtained samples were analysed at time 0 and used as reference, followed by a cooled and temperate sample analysed every 15 minutes to a maximum of two hours. All samples were turned around every fifth minute. Samples were analysed for pO_2, pCO_2, HCO_3^-, glucose and lactate using an ABL Flex blood gas analyser.

Photos | Sampling and storage of venous blood gas samples. Sampling done through a peripheral venous catheter using a connected three-way stopcock (top). Samples stored at room temperature or wrapped in an ice pack (bottom, left and middle). Cooled samples were unwrapped at the timepoint for analysis (bottom, right).

RESULTS

Fluctuations during the time course of both cooled and uncooled values of pH, pO_2, pCO_2, HCO_3^- and glucose remain within acceptable ranges in the clinical settings with no differences compared to controls (un-paired Mann-Whitney U-test; all $p>0.05$). Comparing cooled and temperated samples, pO_2 is unaffected (paired Mann-Whitney U-test; $p=0.07$), while pH, HCO_3^- and glucose are significantly increased (paired Mann-Whitney U-test, $n=70$; $p<0.001$, $p<0.001$, $p<0.001$), and pCO_2 and lactate are decreased in the cooled samples (paired Mann-Whitney U-test, $n=70$; $p<0.001$, $p<0.001$). In the case of lactate, cooling both delays an otherwise instantaneously increase for one hour and decelerates the progression (paired Mann-Whitney U-test; $p<0.001$).

Cooled and un-cooled samples have an average temperature of 12°C and 22°C respectively.

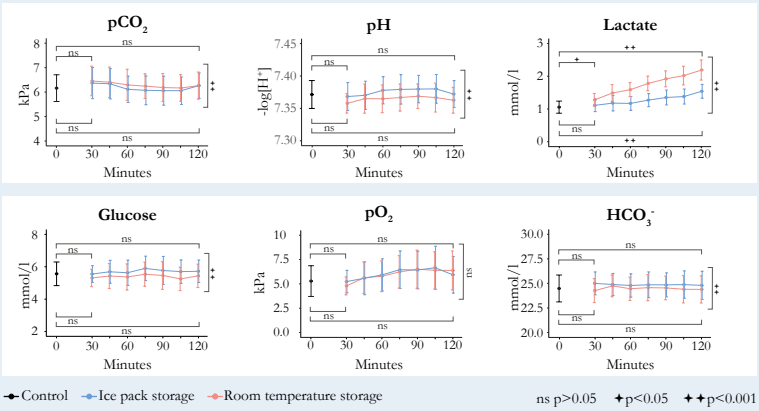

Figure | Variances of venous blood gas values throughout two hours with and without cooling. Cooled (blue) and uncooled (red) values are compared, and both sample groups are compared to controls (black) with p-values marked ns/+/++. Control sample size n=20, sample size at each timepoint in each group n=10, totally n= 160.

CONCLUSION

Cooling significantly affects pH, CO_2, HCO_3^- and glucose, however, the effects are clinically irrelevant. Consequently, venous blood gas values are accepted as stable in a two-hour test period with or without cooling. Lactate increases with time where cooling significantly delays and reduces this increase.

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NORTH DENMARK REGIONAL HOSPITAL

Neurorehabilitering

25. Synsproblemer ved erhvervet hjerneskade. Udredning og rehabilitering under indlæggelse. Et scoping review.

Helle Rovsing Jørgensen[1] og Mona Kyndi Pedersen[2]

1. Neuroenhed Nord, Regionshospital Nordjylland, Brønderslev, Danmark
2. Center for Klinisk Forskning, Regionshospital Nordjylland, Hjørring, Danmark

Baggrund

Synsproblemer ses hos 40% af patienter med apopleksi og hos 50% efter traumatisk hjerneskade. Tidlig udredning og intervention i forhold til synsproblemer anføres som afgørende for udfald af hjerneskaderehabilitering, herunder generhvervelse af funktion og uafhængighed uden forsinkelse. Nationale kliniske retningslinjer i Danmark indeholder ikke anbefalinger til udredning og intervention i relation til synsforstyrrelser ved erhvervet hjerneskade. Klinisk praksis præges af manglende fast procedure for udredning og ingen eller varierende interventioner.

Formålet er at skabe overblik over eksisterende forskningsbaseret viden om screening, undersøgelse og intervention i relation til synsproblemer ved erhvervet hjerneskade under hospitalsbaseret hjerneskaderehabilitering.

Metoder

Litteraturstudie i form af scoping review, der omfatter følgende ni trin:

1. Identificere forskningsspørgsmål
2. Opstille formål og mål
3. Udarbejde inklusionskriterier
4. Udarbejde en protokol for reviewet
5. Søge efter og identificere evidensen
6. Foretage dataekstraktion
7. Kortlægge data
8. Diskutere evidensen
9. Udarbejde konklusion og give anbefalinger

Resultater

Vil omfatte en kortlægning af de screeningsinstrumenter, undersøgelsesmetoder og interventioner, der anvendes til patienter med synsproblemer indlagt til hospitalsbaseret hjerneskaderehabilitering samt hvilke faggrupper, der er involverede.

Resultaterne forventes at foreligge ved udgangen af 2020.

Perspektivering

Kortlægningen vil medvirke til at danne grundlag for en standardiseret procedure for screening, undersøgelse og intervention i relation til synsproblemer ved erhvervet hjerneskade under hospitalsbaseret hjerneskaderehabilitering og for en tværsektoriel og tværinstitutionel indsats.

SYNSPROBLEMER
VED ERHVERVET HJERNESKADE
UDREDNING OG REHABILITERING UNDER INDLÆGGELSE
Et scoping review

Jørgensen, Helle Rovsing[1] • Pedersen, Mona Kyndi[2]

[1]*Neuroenhed Nord, Regionshospital Nordjylland*
[2]*Center for Klinisk Forskning, Regionshospital Nordjylland, Hjørring*

BAGGRUND

Omkring halvdelen af patienter med apopleksi og traumatisk hjerneskade får synsproblemer.

Tidlig udredning og intervention i forhold til synsproblemer anføres som afgørende for udfald af hjerneskaderehablitering.

I Danmark mangler der nationale anbefalinger for udredning og intervention i forhold til synsforstyrrelser ved erhvervet hjerneskade og klinisk praksis præges af manglende fast procedure for udredning og variation i intervention.

FORMÅL

Formålet er at skabe overblik over eksisterende forskningsbaseret viden om screening, undersøgelse og intervention i relation til synsproblemer ved erhvervet hjerneskade under hospitalsbaseret hjerneskaderehabilitering.

METODE

Litteraturstudie i form af scoping review (boks 1).

Der gennemføres en systematisk søgning i følgende databaser: PubMED,Embase,CINAHL, Cochrane Library,PsycINFO (tabel 1).

Alle fund bliver vurderet af to personer ud fra inklusions og eksklusionskriterier.

Der foretages data ekstraktion og mapping ud fra forskningsspørgsmål (boks 2).

RESULTATER

Vil omfatte en kortlægning af de screeningsinstrumenter, undersøgelsesmetoder og interventioner, der anvendes til patienter med synsproblemer indlagt til hospitalsbaseret hjerneskaderehabilitering samt hvilke faggrupper, der er involverede.

Resultaterne forventes at foreligge ved udgangen af 2020.

PERSPEKTIVERING

Kortlægningen vil medvirke til at danne grundlag for en standardiseret procedure for screening, undersøgelse og intervention i relation til synsproblemer ved erhvervet hjerneskade under hospitalsbaseret hjerneskaderehabilitering og for en tværsektoriel og tværinstitutionel indsats.

Boks 1
Et scoping review defineres som et review, der giver overblik over den eksisterende litteratur inden for et defineret emne område. Formålet er at få identificeret begreber, forskning og hovedtyper af tilgængelig evidens.

Trinvis proces:

1. Identificere forskningsspørgsmål
2. Opstille formål og mål
3. Udarbejde inklusionskriterier
4. Udarbejde en protokol for reviewet
5. Søge efter og identificere evidensen
6. Foretage dataekstraktion
7. Kortlægge data
8. Diskutere evidensen
9. Udarbejde konklusion og give anbefalinger

Tabel 1
Oversigt over bloksøgning ud fra Population (P), Concept (C), Context (C)

	AND		
OR	Population	Concepts	Context
	Stroke	Screening	Rehabilitation hospital
	Acquired brain injury/not tumor	Assesment/not selfassesment	Inpatient rehabilitation
	Cerebral infarction	Intervention	Hospitalized
	Adult	Neuropthamology	Skilled rehabcenter
	Neurological impairment	Vision therapy	Subacute
	Oculomotor dysfunction		Rehabilitation
	Visual impairment		
	Vision problems		
	Visual neglect		
	Visual field defects		
	Visual inattention		

Boks 2
Forskningsspørgsmål

1. Hvilke screeningsinstrumenter anvendes til patienter med synsproblemer indlagt til hospitalsbaseret hjerneskaderehabilitering?
2. Hvilke undersøgelser anvendes til afklaring af synsproblemer for patienter indlagt til hospitalsbaseret hjerneskaderehabilitering?
3. Hvilke interventioner anvendes til patienter med synsproblemer indlagt til hospitalsbaseret hjerneskaderehabilitering?
4. Hvilke faggrupper er involverede i screening, undersøgelse og intervention til patienter med synsproblemer indlagt til hospitalsbaseret hjerneskaderehabilitering?

REGIONSHOSPITAL NORDJYLLAND
– i gode hænder

KONTAKT
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CKF CENTER FOR KLINISK FORSKNING Regionshospital Nordjylland

RHN/MH/0919

26. Brain state-dependent stimulation to boost recovery of upper limb function following stroke

Andrew J. T. Stevenson[1], Benjamin Svejgaard[2], Helle Rovsing Jørgensen[3], Boris Modrau[2], Niels Svaneborg[2], Strahinja Dosen[1] and Natalie Mrachacz-Kersting[1]

1. Department of Health Science and Technology, Aalborg University, Denmark
2. Department of Neurology, Aalborg University Hospital, Denmark
3. Neuroenhed Nord, North Denmark Regional Hospital, Broenderslev, Denmark

Background
An associative brain-computer interface (BCI) can lead to significant functional improvements in subacute stroke patients. To date, the effects on functional recovery have only been investigated for lower limb muscles.

The aim of this proposed study is to target this novel brain state-dependent intervention towards functional recovery of the upper limb in subacute stroke patients. Additionally, this study will investigate whether there is a difference in the effectiveness if the attempted movement is either simple (wrist extension) or complex (reach and grasp).

Methods
Hospitalised subacute stroke patients will be randomly assigned to two intervention groups: (1) the associative group will receive 30 pairings of a peripheral electrical nerve stimulus (ES) such that the generated afferent volley will arrive precisely during the most active phase of the motor cortex as patients attempt to perform a movement of their paretic upper limb; and (2) in the control group, the ES intensity will be too low to generate a stimulation of the nerve. The upper extremity Fugl–Meyer assessment (UE-FM) and action research arm test (ARAT) will be performed prior to and following the intervention period. Patients will attend three intervention sessions per week for four weeks.

Results
We hypothesise that the associative group will experience a significantly greater improvement in their functional upper limb recovery compared to the control group.

Conclusions
Based on our previous results showing improvements in lower limb recovery with relatively few repetitions, the proposed associative BCI intervention has the potential to be integrated in the daily clinical routine for stroke rehabilitation.

Brain State-Dependent Stimulation to Boost Recovery of Upper Limb Function Following Stroke

AJT Stevenson[1*], B Svejgaard[2], HRM Jørgensen[3], B Modrau[2], N Svaneborg[2], S Dosen[1] and N Mrachacz-Kersting[1]

[1] Department of Health Science and Technology, Faculty of Medicine, Aalborg University, Denmark
[2] Neurologisk Afdeling, Aalborg Universitetshospital, Aalborg, Denmark
[3] Neuroenhed Nord, Brønderslev, Regionshospital Nordjylland, Denmark

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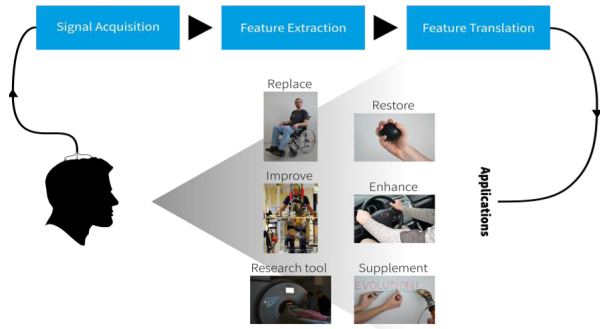
Background

A Brain-Computer-Interface (BCI) system uses brain signals to drive external devices.



We have developed an innovative BCI system that empowers stroke patients to control an artificial activation of their lower limb muscle through task specific motor intent. Chronic and subacute stroke patients demonstrated significant functional improvements after as little as three intervention sessions.

AIMS

1) To target this novel brain state-dependent intervention towards functional recovery of the upper limb in subacute stroke patients and **2)** investigate whether there is a difference in the effectiveness if the attempted movement is either simple (wrist extension) or complex (reaching).

Proposed Methods

- Two groups of hospitalised subacute stroke patients:

1. $BCI_{associative}$ group will receive 30 pairings of a peripheral electrical nerve stimulus (ES) such that the generated afferent volley will arrive precisely during the most active phase of the motor cortex as patients attempt to perform a movement of their paretic upper limb.
2. For the BCI_{sham} group, the ES intensity will be too low to generate a stimulation of the nerve.

- 12 intervention sessions: three per week for four weeks.
- The upper extremity Fugl–Meyer assessment (UE-FM) and action research arm test (ARAT) will be performed prior to and following the intervention period.
- TMS will assess changes in corticospinal excitability.

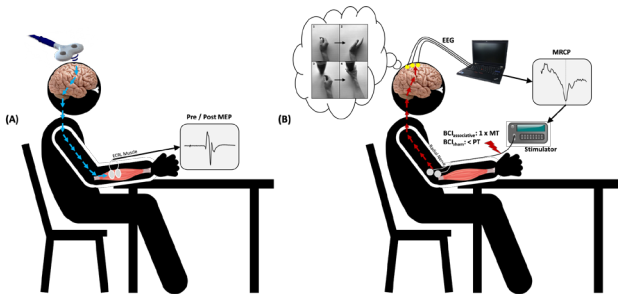


Figure 1: (A) Pre and post TMS measures. (B) The BCI intervention.

Results (Lower Limb)

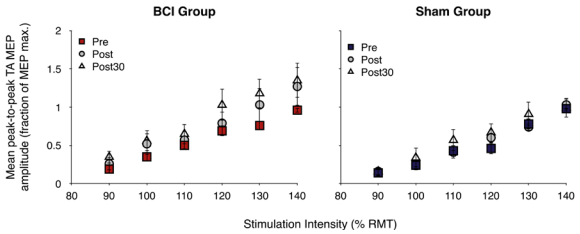


Figure 2: MEP sizes across all patients for Session 12.

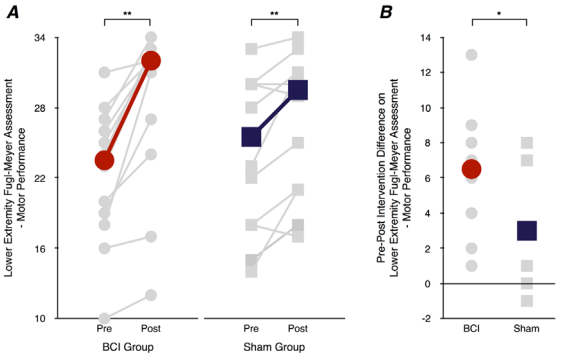


Figure 3: Lower extremity Fugl-Meyer (LE-FM) motor performance scores prior to and following all intervention sessions for the $BCI_{associative}$ and BCI_{sham} groups.

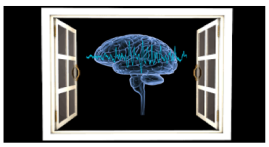
Hypothesis and Discussion

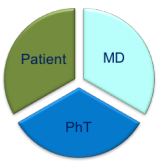
- We hypothesise that the associative group will experience a significantly greater improvement in their functional upper limb recovery compared to the control group.
- Based on our previous results showing improvements in lower limb recovery with relatively few repetitions, the proposed associative BCI intervention has the potential to be integrated in the daily clinical routine for stroke rehabilitation.

Future Vision

A threefold user – we need to:

develop the right window….





- to allow patients to control exercise
- to help MDs diagnosis and prognosis
- to guide therapists intervention

Diagnostiske Specialer

27. Patients exposed to increased ionizing radiation due to repeated computed tomography scans – a retrospective study in the North Denmark Region

Thomas Hessellund[1], Trine S. Jensen[2], Bjarne Borggaard Madsen[3], Dorthe Brønnum[2], Dorte Melgaard[2], Henrik Bøggild[4] and Peter Derek Christian Leutscher[2,5]

1. Department of Radiology, Clinic for Diagnostics, North Denmark Regional Hospital, Hjoerring, Denmark
2. Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark
3. University College North Jutland, Aalborg, Denmark
4. Department of Health Science and Technology, Aalborg University, Denmark
5. Department of Clinical Medicine, Aalborg University, Denmark

Background
The number of computed tomography (CT) scans performed worldwide has increased markedly the last decade. CT scans contribute to 100-500 times more radiation than conventional radiography, mediating a serious risk for development of radiation-induced cancer.

The aim of this study is to characterize the number of CT scans performed in the North Denmark Region between 2002 and 2018 and to investigate the prevalence of repeated scans without clinical indication resulting in increased harmful radiation exposure.

Methods
The Business Intelligence unit at the North Region of Denmark extracted data on CT scans performed in 2002 to 2018. Furthermore, SKS code UXCD data was extracted from December 1st 2014 to January 31st 2016 and from December 1st 2016 to January 31st 2018 to investigate the prevalence of repeated abdominal CT scans in these two periods. Repeated scans within 28 days were paired and statistically determined justified or possibly non-justified. Two subgroups with 100 paired CT scans from 2015 and 2017, respectively, were audited in order to determine the final category as either justified or non-justified in accordance to status of clinical indication by review of medical files.

Results
Data are being analysed.
Audit show that more than 30% of the possibly non-justified abdominal CT scans within 28 days are indeed non-justified.

Conclusion
Ionizing radiation constitutes a serious risk factor to patients undergoing CT scans, especially in the light of the increasing use of CT examinations worldwide. Guidelines are needed to reduce the amount of non-justified scans aiming to reduce overall risk of radiation-associated cancer-development.

Patients exposed to increased ionizing radiation due to repeated computed tomography scans – a retrospective study in the North Region of Denmark

Thomas Hessellund[1], Trine S. Jensen[2], Bjarne Borggaard Madsen[3], Dorthe Brønnum[2], Dorte Melgaard[2], Henrik Bøggild[4] and Peter Derek Christian Leutscher[2,5]
1.Department of Radiology, Clinic for Diagnostics, North Denmark Regional Hospital, Hjoerring, Denmark
2. Centre for Clinical Research, North Denmark Regional Hospital. 3. University College North Jutland
4. Department of Health Science and Technology, Aalborg University. 5.Department of Clinical Medicine, Aalborg University
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Background

The number of computed tomography (CT) scans performed worldwide has increased markedly the last decade. CT scans contribute to 100-500 times more radiation than conventional radiography, mediating a serious risk for development of radiation-induced cancer. The aim of this study was to access changes in number of total CT scans performed in the North Region of Denmark between 2005 and 2018 and to investigate the prevalence of unjustified abdominal CT scans.

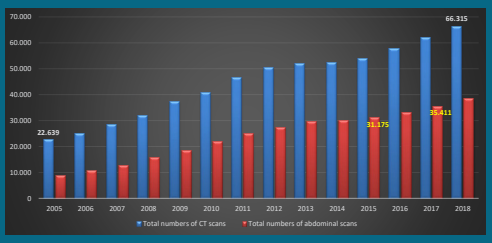

Figure 1. Increase in annual numbers of CT scans performed in the North Denmark Region from 2005 to 2018, compared to the numbers of abdominal CT scans in the same period.

Methods

Data on CT scans were extracted from the Business Intelligence Office in the North Denmark Region. Number of abdominal CT scans being repeated within a 28 days period was investigated using a data analytic algorithm model. Justification status of repeated CT scans was then determined by a medical file audit of 100 scan pairs in ach of two randomly selected subgroups representing 2015 and 2017, respectively, with review of registered indication and other relevant clinical information.

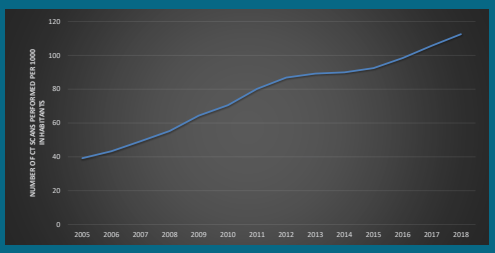

Figure 2. Changes in mean number of CT scans per 1000 inhabitants living in the North Denmark Region from 2005 to 2018.

Results

The number of total CT scans performed in the region increased from 22,639 in 2005 to 66,315 in 2018 (Figure 1), which correspond to an increase in ratio of CT scans per 1000 inhabitants by a factor 3.6 from 40 to 110 (Figure 2). The medical file audit revealed that approximately 45% of the repeated abdominal CT scans were unjustified (Figure 3). This percentage translates into 15% of the total number of abdominal CT-scans being performed, hence to 4517 and 4951 unjustified abdominal CT scans in 2015 and 2017, respectively.

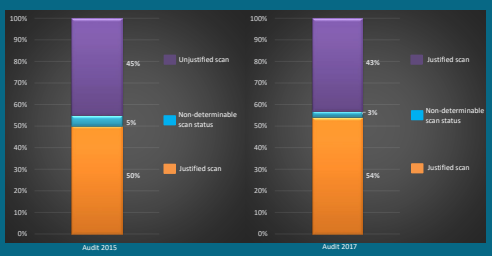

Figure 3. Outcome of medical file audit for the two groups of 100 randomly selected scan pairs in 2015 and 2017, respectively.

Conclusion

Our study documents an increased CT scan activity in the Danish health sector, which may lead to a rise in ionizing radiation induced cancer cases in the years to come. Awareness among clinicians is warranted towards a more cautious use of CT scans to reduce number of unjustified CT scans.

NORTH DENMARK REGIONAL HOSPITAL

CKF | CENTRE FOR CLINICAL RESEARCH
North Denmark Regional Hospital

28. Severe liver injury caused by recommended doses of the food supplement Kratom

Søren Bøgevig[1,2], Torben Breindahl[3], Mikkel B Christensen[1,2], Trine Nielsen[4] and Lotte CG Høgberg[1,5]

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4. Department of Internal Medicine, Zealand University Hospital, Koege, Denmark
5. Department of Anesthesiology and Intensive Care, Copenhagen University Hospital Bispebjerg, Copenhagen, Denmark

Background
Powder from *Mitragyna Speciosa*, a tropical tree, also named Kratom, is sold as a food supplement over the internet. The active components of Kratom are mitragynine and 7-hydroxymitragynine, both alkaloids that possess central nervous system activity with an opioid-like effect.

We present a case of severe liver injury after Kratom ingestion in the dose recommended on the package.

Methods
Initial clinical laboratory values showed liver affection; alanine aminotransferase (ALT) 887 U/L; alkaline phosphatase 392 U/L; bilirubin 296 micromol/L; lactate dehydrogenase 259 U/L. Blood coagulation parameters and pancreatic amylase were normal. Further tests during admission were without signs of infection including cytomegalovirus and hepatitis.

The purchased Kratom powder was analyzed using high-performance liquid chromatography/tandem mass spectrometry (LC-MS/MS) and electron impact ionization gas chromatography/mass spectrometry (EI-GC-MS) using deuterium-labelled internal standards and certified reference standards.

Results
After stopping Kratom powder ingestion symptoms decreased the following days. Bilirubin and ALT was normalized after 3 weeks. Quantification of mitragynine showed average contents of 0.590 mg/g (or 0.059% w/w). Mitragynine contents in the range 1.6-19 mg/g have been reported for Kratom products sold online.

Conclusion
This case presents severe liver affection after a food supplement Kratom powder was ingested in recommended dose for only 2 weeks. The active component mitragynine was found in relatively low concentration in the powder by LC-MS/MS, however Kratom was suspected to be the cause of liver injury in this case.

Severe liver injury caused by recommended doses of the food supplement Kratom

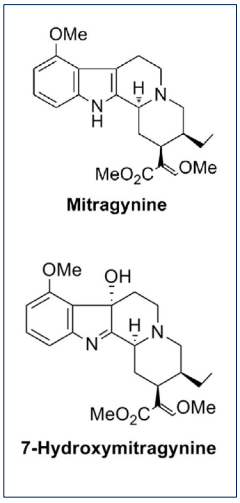
Soeren Bøgevig (1,2), Torben Breindahl (3), Mikkel B Christensen(1,2), Trine Nielsen (4), Lotte CG Høgberg (1,5)

(1) The Danish Poisons Information Centre, Copenhagen University Hospital Bispebjerg, Copenhagen, Denmark;
(2) Department of Clinical Pharmacology, Copenhagen University Hospital Bispebjerg, Copenhagen, Denmark;
(3) Department of Clinical Biochemistry, North Denmark Regional Hospital, Hjørring, Denmark;
(4) Department of Internal Medicine, Zealand University Hospital, Køge, Denmark;
(5) Department of Anesthesiology and Intensive Care, Copenhagen University Hospital Bispebjerg, Copenhagen, Denmark.

Objective

Powder from *Mitragyna Speciosa*, a tropical tree, also named Kratom can be bought as a food supplement over the internet. The active components of Kratom are mitragynine and 7-hydroxymitragynine [see figure], both alkaloids that possess central nervous system activity with an opioid-like effect. We present a case of severe liver injury after Kratom ingestion in the dose recommended on the package.

(a): Remaining part of the ingested product (photo by the authors)
(b): Website of purchased product https://www.kraatje.eu/contents/en-us/p4_Green_Malay_Kratom.html
Access date: 24. April 2019



Case report

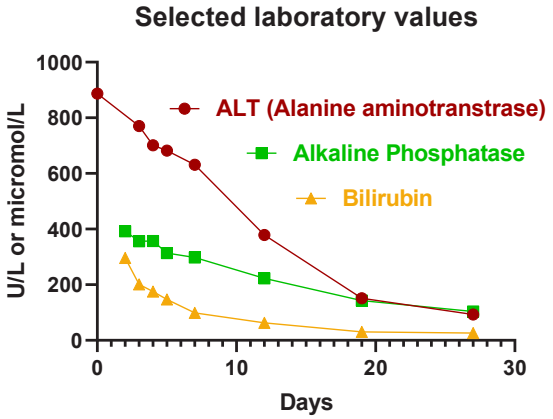
A 56-year old man was admitted to the hospital by his GP with symptoms of obstipation and jaundice. The patient described 10 days of obstipation and around five days with yellow coloring of the skin. Mild stomach pain, but not other complaints. Medical history included chronic pain due to spinal stenosis including spinal surgery. No current or past use or abuse including alcohol, but with a prior history of mild elevation of the liver enzymes, but with normal values 6 month before admission.

The patient explained he had begun to use a food supplement for his back pain as recommended by his son. The powder, named Green Malay Kratom, was purchased from the internet and used in the dose indicated, one tee-spoon of the powder daily. He had started this 14 days before admission. He received no other prescription medication, but took Vitamin C and probiotics on a daily basis.

Case report continued..

Initial clinical laboratory values showed liver affection; alanine aminotransferase (ALT) 887 U/L; alkaline phosphatase 392 U/L; bilirubin 296 micromol/L; lactate dehydrogenase 259 U/L [see graph]. Blood coagulation parameters and pancreatic amylase were normal. Further tests during admission were without signs of infection including cytomegalovirus and hepatitis. Kratom powder ingestion was stopped, and symptoms decreased the following days. Bilirubin and ALT was normalized after 3 weeks.

The purchased Kratom powder was analyzed with electrospray ionization high-performance liquid chromatography/tandem mass spectrometry (ES-LC-MS/MS) and electron impact ionization gas chromatography/mass spectrometry (EI-GC-MS) using deuterium-labelled internal standards and certified reference standards. Quantification of mitragynine showed average contents of 0.590 mg/g (or 0.059% w/w). Mitragynine contents in the range 1.6-19 mg/g have been reported for Kratom products sold online.



Conclusion

This case presents severe liver affection after a food supplement Kratom powder was ingested in recommended dose for only 2 weeks. The active component mitragynine was found in relatively low concentration in the powder by LC-MS/MS, however Kratom was suspected to be the cause of liver injury in this case.

Det humane Mikrobiom

29. The presence of bacteria varies between colorectal adenocarcinomas, precursor lesions and non-malignant tissue

Caspar Bundgaard-Nielsen[1,2], Ulrik T. Baandrup[1,2,3], Lars P. Nielsen[4] and Suzette Sørensen[1,2]

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3. Department of Pathology, North Denmark Regional Hospital, Hjoerring, Denmark
4. Biobank and Biomarkers, Statens Serum Institut, Copenhagen, Denmark

Background
A causal association has been suggested between bacteria and colorectal cancer (CRC). However, few studies have investigated the presence of these bacteria directly in colon tissue. The role of bacteria in the prognosis and carcinogenesis of CRC, it thus uncertain.

Methods
Colorectal tissue samples from patients diagnosed with colorectal cancer (tumor and paired normal tissue, n = 99), adenomas (n = 96), or diverticular disease (n = 104) were tested for the presence and bacterial load of *Streptococcus gallolyticus* (*S. gallolyticus*), *Fusobacterium nucleatum* (*F. nucleatum*), and *Bacteroides fragilis* (*B. fragilis*) using quantitative PCR. The prognostic value was determined by comparing the bacterial status to patient outcome. Finally, a subset of samples was analyzed using 16S ribosomal RNA gene sequencing, to determine other potential bacterial involvements.

Results
S. gallolyticus was not detected in any of the tissue samples whereas *F. nucleatum* and *B. fragilis* were found to be equally distributed in tumors, paired normal tissue, and diverticula, but significantly less present in adenomas compared to both tumors and diverticula. Neither *F. nucleatum* nor *B. fragilis* status affected the five-year prognosis of the patients. 16S rRNA gene sequencing revealed that tumors were associated with the *Prevotella* genus while adenomas and diverticula were associated with *Acinetobacter* genus.

Conclusion
These findings do not support a role of *F. nucleatum* or *B. fragilis* during colorectal beginning, while *S. gallolyticus* was not implicated in CRC in a Danish population. A potential role of the bacterial genera *Prevotella* and *Acinetobacter* was indicated, and requires further investigations.

The presence of bacteria varies between colorectal adenocarcinomas, precursor lesions and non-malignant tissue

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Background

Colorectal cancer (CRC) is one of the most common cancers and are responsible for a reported 700,000 deaths annually. Early detection allows efficient treatment, however, the disease is often detected in late stage leading to poorer prognosis for the patients. Thus more research into development of CRC is needed to detect more sensitive biomarkers for early non-invasive CRC detection. Recent studies has revealed a number of potential oncogenic bacteria in patient with CRC. This include the bacteria *Streptococcus gallolyticus subspecies gallolyticus, Bacteroides fragilis, and Fusobacterium nucleatum*. While there are several published candidates for bacteria associated with CRC, large differences in bacterial prevalence have been reported in different studies. Only few studies have compared bacterial status in precancerous adenomas with that of CRC, or evaluated the prognostic value of bacterial status.

In this study, we compared bacterial colonization of archival colorectal tissue from tumors, adenomas, and non-cancerous tissue of the colorectal tract. Furthermore, we investigated the effects of bacterial status on patient outcome.

Methods

Formalin-fixed and paraffin-embedded (FFPE) colorectal tissue samples from patients diagnosed with CRC (tumor and paired normal tissue, n=99), adenomas (n=96), or diverticular disease (n=104) were tested for the presence and bacterial load of *S. gallolyticus*, *F. nucleatum*, *and B. fragilis* using quantitative PCR. A subsequent broader search was conducted on a subset of samples using Illumina sequencing of the V4 region of the 16S ribosomal RNA gene.

Finally, to evaluate the prognostic value, the bacterial status was compared to patient outcome.

Results

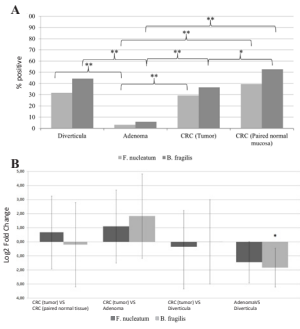

Fig 1. Presence and quantity of *F. nucleatum* and *B. fragilis* in colorectal tissue. qPCR determination of presence and quantity of bacterial DNA in colorectal tumor tissue, paired normal tissue, adenomas and diverticula. A) Prevalence of *F. nucleatum* and *B. fragilis* in colorectal tissue. Positivity was determined as bacterial species with a DNA quantity above the limit of detection of the primers. B) Difference in quantity of *F. nucleatum* and *B. fragilis* DNA in different tissue Brackets denote standard deviation. * P < 0.05, ** P < 0.001.

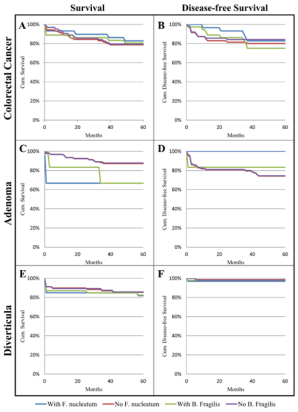

Fig 2. Five-year follow-up based on presence of *F. nucleatum* or *B. fragilis*. Survival and disease-free survival of patients presenting with CRC, adenomas or diverticula depending on presence or absence of *F. nucleatum* or *B. fragilis*. Five-year follow-up data was not avaiable for two study participants belonging to the diverticula group. These patients were excluded from the follow-up analysis.

S. gallolyticus, *B. fragilis,* and *F. nucleatum* in CRC tumors, paired normal tissue, adenomas and non-malignant diverticula

To establish the degree of colonization with *S. gallolyticus*, *F. nucleatum* and *B. fragilis* in CRC, we utilized qPCR to compare the prevalence and quantity (fig. 1) of the bacteria in tumors, paired normal tissue, adenomas and diverticulum samples.

S. gallolyticus was not detected in any of the investigated tissue samples. Both *F. nucleatum* (29.9 %) and *B. fragilis* (36.4 %) could be detected in tumor samples. However, both bacteria were equally or more often observed in paired normal tissue or diverticula (Fig. 1A), while relative quantities were comparable (Fig. 1B). Intriguingly, we detected *F. nucleatum* and *B. fragilis* significantly less common in adenomas (3.0 % and 5.9 % respectively) compared to both tumor tissue ($p<0.001$) and diverticula ($p<0.001$, Fig. 1A). In addition, the adenomas contained significantly less *B. fragilis* DNA compared to diverticula ($p<0.05$, Fig. 1B).

Effects of *B. fragilis* and *F. nucleatum* five year survival and disease free survival

To assess the clinical significance of *F. nucleatum* and *B. fragilis*, information on disease progression and survival were collected for all patients for a five year period following initial diagnosis, and analyzed using a Kaplan-Meier analysis (Fig. 2).

Detection of *F. nucleatum* or *B. fragilis* did not result in significant ($p>0.05$) changes in survival or disease-free survival rates of patients within a five year period.

Relative bacterial abundances of tumors, paired normal tissue, adenomas and diverticula.

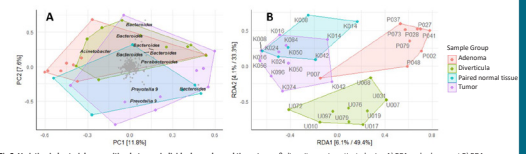

Fig 3. Variation in bacterial composition between individual samples and tissue types. β-diversity was investigated using A) PCA and subsequent B) RDA analysis of square root transformed OTU abundances. Colored boxes represent different tissue types.

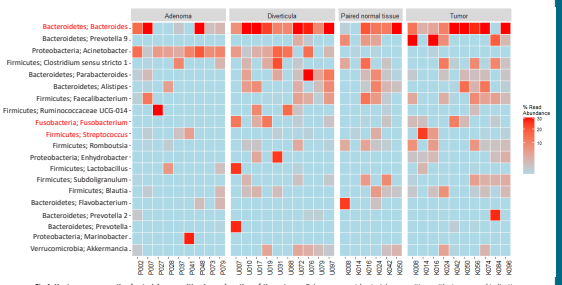

Fig 4. Heat map representing bacterial composition in a subsection of tissue types. Colors represent bacterial composition, with stronger red indicating higher percentage of total read abundance, while light blue indicate absence of the bacteria. Only the 20 most common bacteria are depicted.

To determine if CRC tissue from the four tissue groups differed in overall bacterial composition, we analyzed 10 randomly selected samples from each group using 16S rRNA gene sequencing. One sample from the adenomas and four paired normal tissue yielded less reads than the negative controls and were thus excluded.

The differences between bacterial compositions were minor as indicated by clustering on the PCA plot (Fig. 3A). These minor changes were elucidated through a subsequent RDA plot that revealed limited tissue specific clustering (Fig. 3B). A heatmap was produced to elucidate tissue specific bacterial changes (Fig. 4), that revealed that tumors were associated with the *Prevotella* genus while conversely adenomas and diverticula were associated with *Acinetobacter* genus.

Conclusion

Our results do not support a role for either *F. nucleatum*, *B. fragilis*, or *S. gallolyticus* in development of CRC. On the contrary, the bacteria were scarcely represented in the pre-cancerous lesions, indicating that the bacteria are not required for cancer development. This study does indicate a potential role of bacteria belonging to the genera *Prevotella* and *Acinetobacter* in the progression of carcinogenesis, which warrants further studies.

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30. The role of the gut microbiota in women with gestational diabetes and bacterial transmission from mother to child

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Background
Gestational diabetes mellitus (GDM) is defined as glucose intolerance with onset during pregnancy. Although GDM is a transient state, it is still associated with long-term complications. Microbiota could be involved in the development of GDM, as GDM has been associated with dysbiosis (imbalance of microbiota) in different anatomical niches. Furthermore, this altered bacterial composition may be transferred to the infant, since a different gut microbiota has been found in infants born of a mothers with GDM compared to controls.

This study aims to investigate the association between microbiota and the development of GDM in pregnant women, and the bacteria transmission from mother to child.

Methods
The association between microbiota and the development of GDM will be investigated by comparing the bacterial composition of fecal samples from pregnant women before and after GDM develops.
The perinatal bacterial transmission will be investigated by comparing microbiota from the gut, vagina, oral cavity, and uterus from the mother with meconium and placenta from the infant. The postnatal transmission will be assessed by comparing microbiota in the breast milk with stool from the child.
Bacterial DNA will be extracted from the samples and analyzed by 16S rRNA gene sequencing to characterize the bacterial compositions in the different niches.

Results
We expect to find altered microbiota niches in women at risk of developing GDM, and that the infant's gut microbiota is dependent of the mother's GDM state. This knowledge could be used in the prevention of GDM and in the treatment of both the mother and the child.

Conclusion
The study will add new information to the understanding of GDM pathophysiology.

The role of the gut microbiota in women with gestational diabetes and bacterial transmission from mother to child

Louise Rold[1,2], Louise Arenholt[1,3,4], Søren Hagstrøm[1,2,3,5], Peter Leutscher[1,3], Suzette Sørensen[1,3]

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Background

Gestational diabetes mellitus (GDM) is defined as glucose intolerance with onset during pregnancy. Although GDM is a transient state, it is associated with increased risks of developing type 2 diabetes mellitus in both mother and offspring (1-2).

A common feature associated with GDM is an altered microbiota (3). Nevertheless, it is not known if this altered microbiota is involved in the development of GDM or simply is a consequence of the disease state.

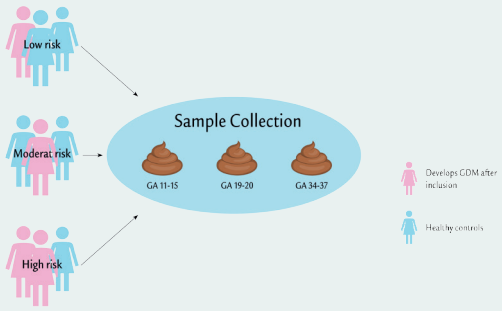
Furthermore, it is generally believed that this altered bacterial composition can be transferred from the mother to the infant through the placenta and breast milk. For example, studies have shown that infants born from mothers suffering from GDM have an altered gut microbiota (3).

Thus, the objectives of this study is to investigate;

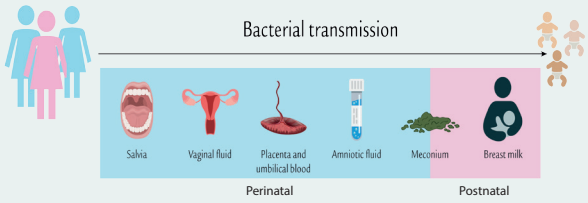
1. The association between the gut microbiota and the development of GDM;
2. The bacterial transmission from mother to child.

Study design

Objective 1 - The association between the gut microbiota and the development of GDM



Objective 2 - The bacterial transmission from mother to child



Materials and methods

To investigate the association between the microbiota and the development of GDM, and bacteria transmission from mother to child, we will compare the bacterial composition between samples collected at different time points during and after pregnancy. Samples will be collected from the gut, vagina, oral cavity, uterus, and breast. To characterize the bacterial compositions in the samples, bacterial DNA will be extracted and analyzed by 16S rRNA gene sequencing.

1) The association between the gut microbiota and the development of GDM

To investigate the association between microbiota and the development of GDM, we will compare the bacterial composition in samples from the gut from pregnant women before and after GDM normally develops.

2) The bacterial transmission from mother to child

The perinatal bacterial transmission will be investigated around the time of birth by comparing microbiota from the gut, vagina, oral cavity, and uterus from the mother, with meconium from the infant. Bacteria from meconium represent early microbial colonization in the child.
The postnatal transmission will be assessed by comparing breast milk from the mother with stool from the child.

Expected outcomes

We expect to find an altered microbiota in women that develop GDM compared to women that do not, and that the bacterial transmission from mother to child is altered in GDM. Potential findings could be used for population screening to identify high risk individuals enabiling GDM intervention (e.g. probiotics that reduce GDM morbidity).

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31. Can faecal transplantation from patients diagnosed with depression into rats induce a depressive-like phenotype?

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6. Department of Clinical Medicine, Aarhus University, Denmark

Background
The gut microbiota has been found to be compositionally different in patients diagnosed with depression versus their respective non-depressed controls. Albeit studies have found structural differences, very few have been able to establish whether this unique gut community has any functional effect on pathogenesis of depression. The aim of this study is to analyse whether the gut microbiota of patients with depression, independently can induce depressive-like behaviour in an animal model.

Methods
Samples from five patients diagnosed with depression and sex- and age-matched controls were pooled, homogenized and orally transplanted into the Flinders Resistant Line rats thrice a week during three weeks. Anxiety- and depressive-like behaviour were analysed using the Open Field Test and the Forced Swim Test, respectively. Faecal samples were collected prior to transplantation, and at euthanization, and microbiota composition determined using 16S rRNA gene sequencing.

Results
Differences in α- and β-diversity between samples collected before and after transplantation will be explored, to evaluate if the transplantations have resulted in a possible shift in gut community structure. Behavioural analysis will be compared to the faecal microbial community after transplantation, to analyse the potential of the human microbiota to induce depressive-like behaviour, and measures will be taken to evaluate if specific bacteria can be observed both in the donor material as well as the humanized gut of the recipient rodent.

Conclusion
The animal studies are expected to add to the evidence, and establish whether a causal association between the human gut microbiota and the development of depression exists. This is also valuable in the pursuit of novel therapeutic targets for depression medication.

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Can faecal transplantation from patients diagnosed with depression into rats induce a depressive-like phenotype?

Authors: Julie Kristine Knudsen[1, 2, 3], René Ernst Nielsen[2, 4], Simon Hjerrild[5,6], Peter Leutscher[1, 2], Gregers Wegener[3], Suzette Sørensen[1, 2]
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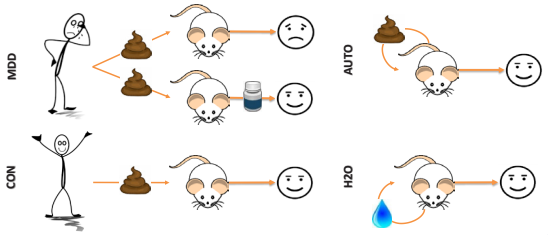
Introduction

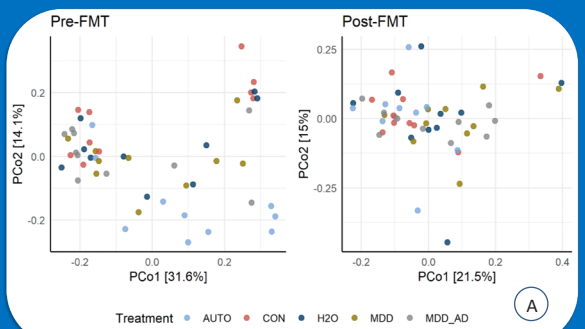
The human gut microbiota has recently been acknowledged as a functional entity within the healthy human body (1, 2). Many studies have explored associations between a unique gut microbiota composition and disease states (3-5). The gut microbiota has also been found to be compositionally different in patients diagnosed with depression versus their respective non-depressed controls (6-8). The majority of the studies have characterized the structural gut microbiota, while some have attempted to elucidate the functional potential (7, 9). Very few studies have combined the analysis of gut microbiota amongst patients diagnosed with depression with faecal microbiota transplantation (FMT) into animals to evaluate a potential behavioural effect (10, 11). Neither of the studies included the use of both treatment-naïve patients and antidepressant use, and the aim of this study was therefore to analyse whether the gut microbiota of patients with depression, independently can induce depressive-like behaviour in an animal model, which can be rescued using chronic antidepressant therapy.

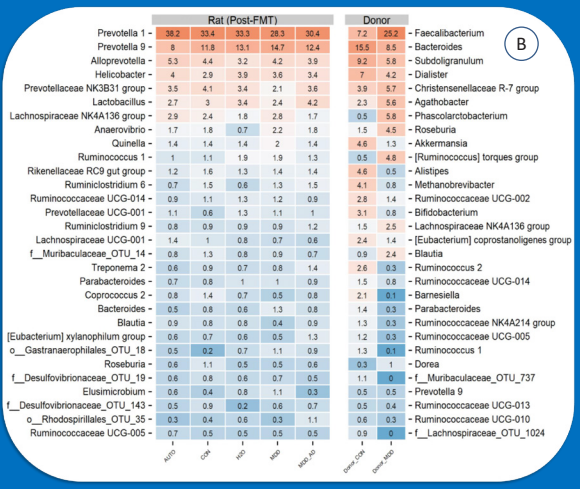
Methods

Faecal samples were collected from five female patients diagnosed with severe Major Depressive Disorder (MDD) and five age- and sex-matched healthy female controls (CON). Faecal samples were also collected from rats for auto-transplantation (AUTO). Flinders Resistant Line rats (n = 10/group) received either MDD, CON, AUTO or water transplantations by oral gavage thrice weekly for three weeks. One group of MDD rats simultaneously received Sertraline (MDD_AD) at 16.7 mg/kg/day. Animals underwent behavioural assessment; the Open Field Test measures the total distance travelled, as well as risk-taking behaviour. The Forced Swim Test measures the total time of immobility, which is used as a measure of depressive-like behaviour. Animals were subsequently euthanized, and faecal samples collected.

Bacterial DNA was extracted from faecal samples collected before and after transplantation with the QIAamp PowerFecal DNA kit, including an additional mechanical lysis step involving bead-beating. Samples were subsequently sent to DNASense (Aalborg) for library preparation and DNA sequencing. 16 rRNA gene sequencing was performed using primers targeting the V4 hypervariable (12) and the Illumina MiSeq system (13). Taxonomy was based on 97% sequencing alignment of the pairwise generated 301bp sequences and OUT clustered based on the USEARCH amplicon processing as implemented in QIIME using the MiDAS database v2.1.3. Results were analysed in Rstudio IDE.







Results and discussion

The five groups had no observable differences in total distance travelled or risk-taking behaviour in the Open Field Test (data not shown). In the Forced Swim Test (data not shown), rats receiving MDD showed increased immobility time compared to rats receiving CON. This effect was not observed in the group of rats who simultaneously received antidepressant treatment. It was not possible to separate the gut microbiota communities between the groups based on treatment in the analysis of α- and β-diversity, neither before transplantations (A, Pre-FMT) nor after transplantations (A, Post-FMT). Heat maps also reveal no obvious observable difference between the individual groups in the composition of the 30 most abundant taxa (B). Analysis of the Post-FMT gut microbiota showed 25 significant differently expressed genera, five of which originated from the donor material. Four of these phylotypes (*Lachnospira*, *Cyanobacteria*, and *Ruminococcaceae* UCG-014 and UCG-005) were overexpressed in animals receiving FMT-MDD compared to FMT-CON, while *Coprococcus* showed lower relative abundance.

The *Ruminococcaceae* family has previously been associated with depression (10), but some studies have also found less colonization by the *Ruminoccocaceae* family amongst their patients with depression (6,14). The *Ruminoccaceae* shift may be a potential driver of the behaviour. *Coprococcus* has also previously been observed depleted in patients with depression (10, 15), and is a known butyrate producer, a microbial product with both anti-inflammatory, antidepressant and neuroprotective properties (16). Loss of butyrate-producing taxa may exacerbate the depressive phenotype in recipient animals.

Conclusions

The Flinders Resistant Line rats whom FMT from patients diagnosed MDD displayed increased immobility time in the Forced Swim Test. This behaviour is indicative of an depressive-like phenotype. Animals receiving FMT from the healthy control group did not display this behaviour, and while simultaneous antidepressant treatment of FMT-MDD animals abolished the depressive-like behaviour.

It was not possible to separate the microbial communities of the groups based on treatment. No significant difference was observed in neither α- nor β-diversity between each group. Animals receiving FMT-MDD had 25 significantly different OTUs, where five of these originated from the donor material. Four (*Lachnospira*, *Cyanobacteria* and two genera from the *Ruminococcaceae* family) were overrepresented in animals receiving FMT-MDD, while *Coprococcus* was depleted. These taxa may be potential drivers of the behavioural differences observed between FMT-MDD and FMT-CON animals.

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32. The effect of red clover isoflavones on urinary microbiota in postmenopausal women with and without urinary incontinence and overactive bladder symptoms

Annemarie Brusen Villadsen[1,2], Jette Brommann Kornum[3], Peter Leutscher[1,2], Soeren Hagstroem[1,2,4], Per Bendix Jeppesen[5], Louise Thomsen Schmidt Arenholt[1,2,6], Suzette Soerensen[1,2]

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Background
During menopause, the production of estrogen in women decreases, and for some leading to symptoms such as hot flushes, night sweat and vaginal dryness, together with loss of bone mass. Additionally, postmenopausal women have an increased risk of developing life debilitating bladder disorders, including overactive bladder, incontinence, and recurrent urinary tract infections. Recently, it has been speculated that a hormone-dependent shift in the natural composition of bacteria (microbiota) in the bladder after menopause, may cause these disorders. Previous studies have shown that intake of isoflavones (estrogen-like compounds from for example red clover) may relieve menopause-associated conditions such as bone mass degeneration and heat flushes. We aim to investigate whether intake of isoflavones from red clover improves bladder function in postmenopausal women in conjunction with changes in the urinary microbiota.

Methods
A total of 200 postmenopausal women, with and without bladder symptoms, will be included in a three month double-blinded, randomized, placebo-controlled trial. The women will consume a daily ration of red clover extract (60 mg isoflavones/d) or placebo. Clinical characteristics (e.g. bladder symptoms) will be recorded at baseline and 3-months follow-up. Microbiota composition will be mapped by 16S rRNA gene sequencing, and estrogen and isoflavone levels monitored in blood samples.

Results
Data not yet available.

Conclusions
We expect that this study will contribute to an increased knowledge about the etiology of bladder disorders in postmenopausal women, and the possible role of the urinary microbiota in this connection. Additionally, we hope that red clover extract intake my improve bladder symptoms and serve as an alternative treatment option.

THE EFFECT OF RED CLOVER ISOFLAVONES ON URINARY MICROBIOTA IN POSTMENOPAUSAL WOMEN WITH AND WITHOUT URINARY INCONTINENCE AND OVERACTIVE BLADDER SYMPTOMS

Annemarie Brusen Villadsen[1,2], Jette Brommann Kornum[3], Peter Leutscher[1,2], Soeren Hagstroem[1,2,4], Per Bendix Jeppesen[5], Louise Thomsen Schmidt Arenholt[1,2,6], Suzette Soerensen[1,2]

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Funding: Ulla and Mogens Folmer Andersens grat, Nels Jensen research grant, Mare Pedersen and Jensine Heibergs grant

Background

During menopause, the production of estrogen in women decreases, and for some leading to symptoms such as hot flushes, night sweat and vaginal dryness, together with loss of bone mass. Additionally, postmenopausal women have an increased risk of developing life debilitating bladder disorders, including overactive bladder, incontinence, and recurrent urinary tract infections[1]. Recently, it has been speculated that a hormone-dependent shift in the natural composition of bacteria (microbiota) in the bladder after menopause, may cause these disorders. Previous studies have shown that intake of isoflavones (estrogen-like compounds from for example red clover) may relieve menopause-associated conditions such as bone mass degeneration and heat flushes[2,3]. Therefore in this study we aim to investigate whether intake of isoflavones from red clover improves bladder function in postmenopausal women in conjunction with changes in the urinary microbiota.

Methods

A total of 200 postmenopausal women, with and without bladder symptoms, will be included in a three month double-blinded, randomized, placebo-controlled trial. The women will consume a daily ration of red clover extract (60 mg isoflavones/d) or placebo. Clinical characteristics (e.g. bladder symptoms) will be recorded at baseline and 3-months follow-up. Microbiota composition will be mapped by 16S rRNA gene sequencing, and estrogen and isoflavone levels monitored in blood samples.

An overview of the study design and included samples are shown in the figures below.

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2. Lambert et al. 2017 PLoS One
3. Lambert et al. 2017 Am J Clin Nutr

Expected outcome

We expect that this study will contribute to an increased knowledge about the etiology of bladder disorders in postmenopausal women, and the possible role of the urinary microbiota in this connection. Additionally, we hope that red clover extract intake my improve bladder symptoms and serve as an alternative treatment option for the affected women.

STUDY DESIGN

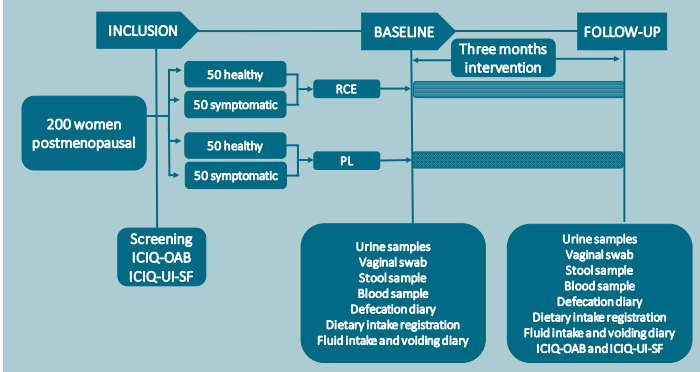

Figure 1 I Schematic presentation of the study design. In total, 200 postmenopausal women will be included in the study. The women will be screened according to the inclusion and exclusion criteria. The questionnaires ICIQ-OAB and ICIQ-UI-SF are used to identify women with urinary tract symptoms, which are allocated to the symptomatic group. Women meeting the inclusion criteria and who does not suffer from any urinary tract symptoms are allocated to the healthy group. Half of the women in the healthy group and half of the women in the symptomatic group will receive red clover extract (RCE) and the other half will receive placebo (PL). Samples will be collected at baseline and at follow-up after three months of intervention.

SAMPLES

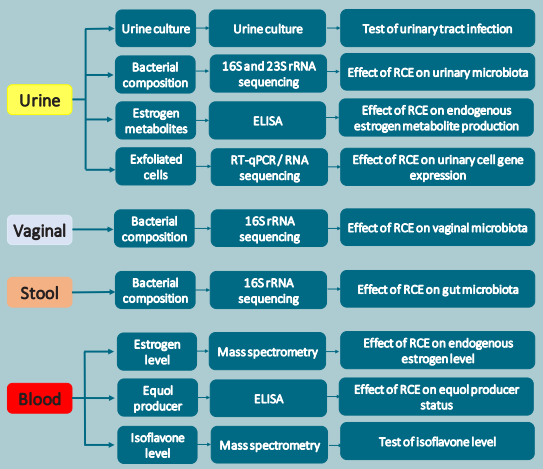

Figure 2 I Schematic presentation of clinical samples taken in the study and the analysis that will be applied.

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Cannabis/Cannabinoider

33. Clinicians view of cannabis to cancer patients – a qualitative interview study

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2. Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark
3. Department of Clinical Medicine, Aalborg University, Denmark

Background
Use of cannabis based medicine (CBM) products has become more common in Denmark in the recent years. In 2018, The Danish Medicines Agency initiated a four-year pilot program, which allows Danish physicians to prescribe new types of CBM products on a broader range of indications. The program has increased the interest and awareness among cancer patients to get access to CBM prescribed by their physician.

The aim of this study was to delineate healthcare providers view on CBM, in their contact with cancer patients about CBM.

Methods
Fifty qualitative research interviews were conducted, recorded and transcribed (oncologists, oncology nurses, palliative care consultants, palliative care nurses and general practitioners – ten in each group), using a semi-structured interview guide.

Results
Despite the fact that the interest in CBM in this patient group has been intense for some years, all informants reported that they felt reluctant to initiate a dialogue with cancer patients about use of CBM. Hence, this initiative has to come from the patient or their relatives. The oncologists claimed an opposition against prescription of CBM to the cancer patients, while the palliative care consultants and the general practitioners occasionally prescribe CBM to patients with poorly controlled pain.

Conclusion
There is a discrepancy between the patients search for access to CBM treatment and the physicians willingness to meet the patients in their request for a prescription. An improved platform for a better dialogue between patients and physicians is needed in this important topic.

Health care professional's perception of cannabis to cancer patients - a qualitative interview study

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2. Center for Clinical Research, North Denmark Regional Hospital, Denmark
3. Department of Clinical Medicine, Aalborg University, Denmark

Introduction

- Only sparse research has investigated health care professionals perception of cannabis based medicine (CBM) use among patient with cancer, although studies have reported beneficial effect of CBM as a supplementary approach to conventional palliative treatment.
- The aim of the study was to delineate oncologists, palliative specialists, general practitioners, oncology nurses, and palliative nurse's view and interaction with patients use of CBM.

Method

- Fifty qualitative research interviews were conducted, recorded and transcribed among 10 oncologists, 10 oncology nurses, 10 palliative specialist doctors, 10 palliative specialist nurses and 10 general practitioners using a semi-structured interview guide.
- Analysis of the interviews was performed with application of the hermeneutic-phenomenological method in a continuous movement between the entire text and parts of the text. Essential themes were then identified.

Results

- None of the clinicians entered a dialogue with the patients on their own initiative to discuss CBM treatment options. The nurses reported that some patients perceived the situation as a personal rejection, which might affect the rest of the consultation negatively *"I find that patients sometimes feel personally rejected"* (oncology nurse). Five of thirty physicians were willing to prescribe CBM in some cases when conventional palliative therapy did not relieve patient reported symptoms adequately *"So I have prescribed it a couple of times, but my considerations are careful, this is not the left-handed thing"* (Palliative specialist).

Conclusion

- This study contributes with important new information from the perspective of the health care professionals regarding willingness to enter a dialogue with cancer patients about treatment and prescription of CBM. There seems to be a discrepancy between patients' expectation and the physicians' perception of CBM. In order to solve this dilemma, initiatives are required to improve the premises for a more open and beneficial dialogue for the sake of the patient suffering from a cancer disease.

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34. Cannabis among cancer patients receiving palliative care - a questionnaire survey

Dorthe Brønnum[1], Dorthe Buchwald[2], Ditte Buchwald[1], Dorte Melgaard[1], Karoline Juul Hesthaven[1], Kristina Winter[2] and Peter Derek Christian Leutscher[1,3]

1. Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark
2. Unit of Palliative Care, Department of Medicine, North Denmark Regional Hospital, Hjoerring, Denmark
3. Department of Clinical Medicine, Aalborg University, Denmark

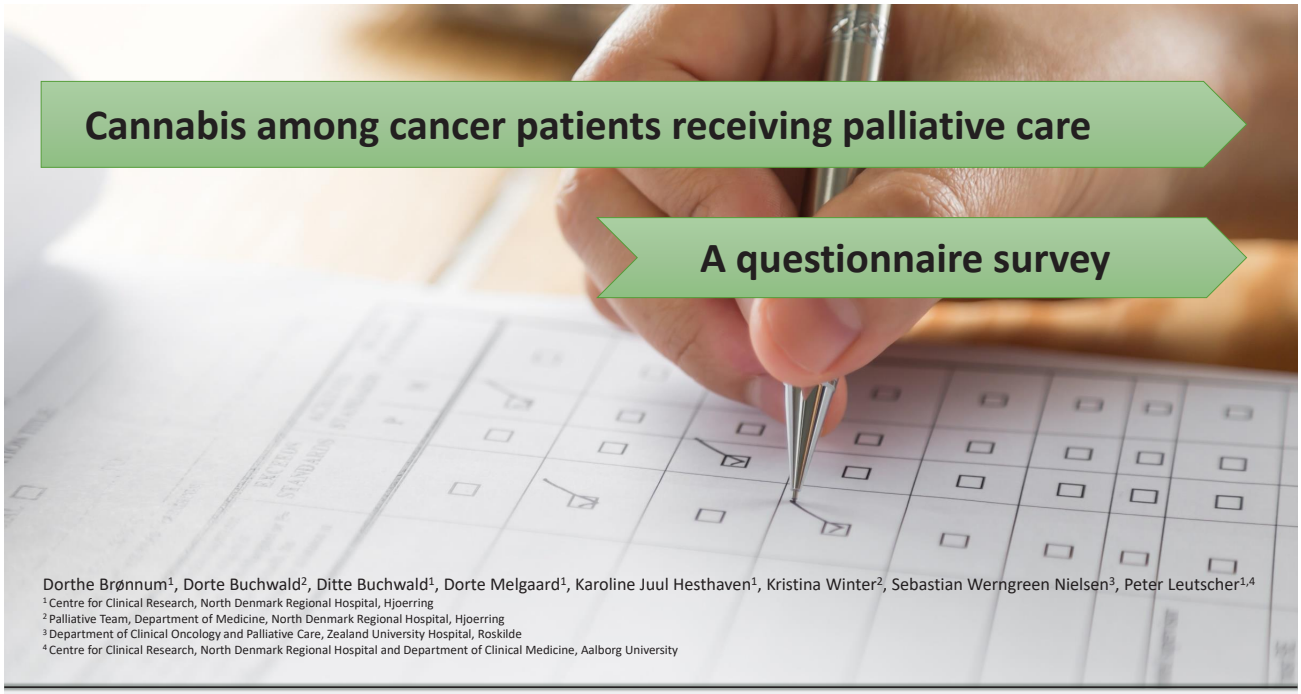
Introduction
In 2018, a four year pilot scheme was launched in Denmark, providing physicians with additional opportunities to prescribe cannabis-based medicine (CBM) products. In spite of this initiative, self-medication with illicit CBM products is still common among patients. The absence of quality control or guidance by health care professionals may leave patients exposed to medical, legal and personal uncertainty.

We aim to investigate this phenomenon in cancer patients receiving palliative care.

Methods
In this study, 400 cancer patients referred to the palliative team at the North Denmark Regional Hospital are invited to participate in a questionnaire survey. Eligible patients, who consent to participate, will receive one of three questionnaires designed to encompass patients who use, previously used or never used CBM, respectively. Background information regarding the diagnosis and date are collected from the medical records. The questionnaire addresses following themes: prevalence, expectations, preference and outcome of CBM treatment, including reported effects and side effects, in addition to involvement of health care professionals.
To support the terminally ill or fragile patients, home visits are arranged by the study team for completing the questionnaire.

Results
Preliminary descriptive results will be presented at the symposium.

Conclusion
We anticipate that the questionnaire survey will provide new information about how Danish cancer patients receiving palliative care perceive the use of CBM products. This important information will be shared with healthcare professionals in order to facilitate the dialogue with the patients and has potential to contribute in the development of clinical recommendations.



Cannabis among cancer patients receiving palliative care

A questionnaire survey

Dorthe Brønnum[1], Dorte Buchwald[2], Ditte Buchwald[1], Dorte Melgaard[1], Karoline Juul Hesthaven[1], Kristina Winter[2], Sebastian Werngreen Nielsen[3], Peter Leutscher[1,4]

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[2] Palliative Team, Department of Medicine, North Denmark Regional Hospital, Hjoerring
[3] Department of Clinical Oncology and Palliative Care, Zealand University Hospital, Roskilde
[4] Centre for Clinical Research, North Denmark Regional Hospital and Department of Clinical Medicine, Aalborg University

Introduction

Despite the fact that cannabis-based medicines (CBM) has been legalized in Denmark in a four year pilot scheme, reported self medication with CBM is common among patients. Through their network, patients find access to illicit cannabis and the absence of quality control or guidance by health care professionals may leave patients exposed to medical and legal risks.

Aim

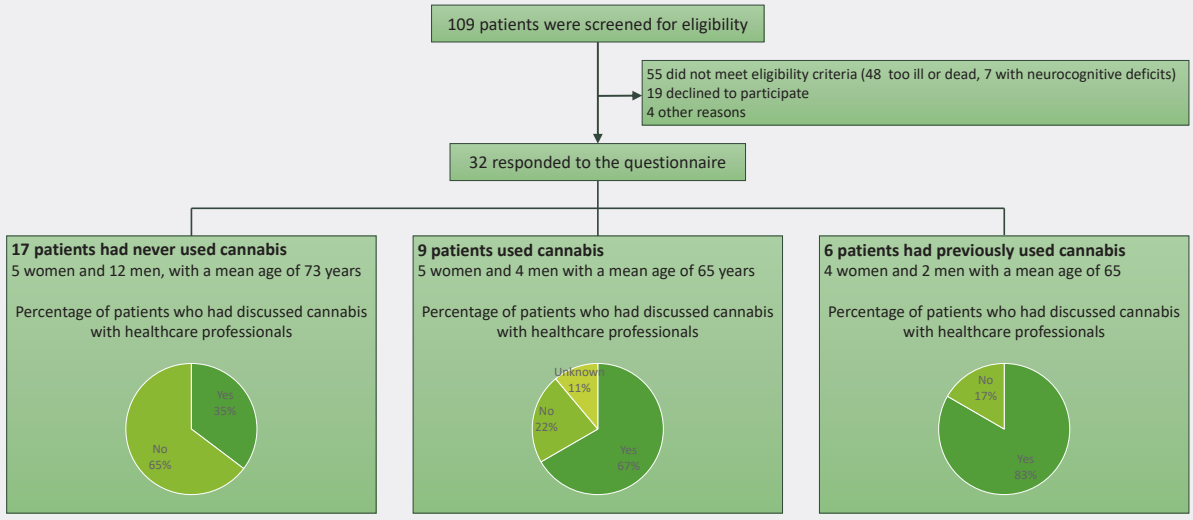
We will investigate the prevalence, expectations, preference and outcome of CBM treatment among patients with cancer in palliative care, including reported effects and side effects.

Method

Patients with cancer referred to the palliative team at North Denmark Regional Hospital are invited to participate in a survey.
Four hundred eligible patients, who consent to participate, receives one of three questionnaires designed to encompass patients who use, previously used or never used cannabis, respectively.
To support the terminally ill patients, home visits are arranged by the study team for completing the questionnaire.

Results

Preliminary results after a three months inclusion period



Conclusion

Almost 60% of all eligible patients were willing to participate in the survey.
We anticipate, that the questionnaire survey will provide new information, about how Danish cancer patients receiving palliative care perceive the use of CBM products. This important information will be shared with healthcare professionals in order to facilitate the dialogue with the patients and has potential to contribute to the development of clinical recommendations.

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Danish Cancer Society

35. Use of Cannabinoid Therapy in Patients with Refractory Chronic Pain – a Retrospective Registry Study of Patients Followed in a Danish Pain Management Clinic

Tina Horsted[1], Karoline Juul Hesthaven[2], Dorthe Brønnum[2] and Peter Derek Christian Leutscher[2,3]

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2. Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark
3. Department of Clinical Medicine, Aalborg University, Denmark

Background
Complex chronic pain disorders cause impairment of daily functionality and reduction of quality of life in most patients. In some of those, adequate symptom relief is not achieved with conventional pain regimens or side effects are intolerable. In this context, cannabinoids are considered as a potential supplementary therapeutic option.

This study aims to explore efficacy and tolerability of cannabinoids among patients with refractory chronic pain. Furthermore, this study will assess reduction of conventional drugs following initiation of cannabinoid therapy.

Methods
A retrospective registry study has been initiated in a population of 2869 patients with refractory pain, prescribed cannabinoid therapy in a Danish pain management clinic from March 2016 until December 2018. Data from patient medical records, including referral diagnosis, conventional drug regimen, pain complaints, quality of life and sleep plus level of functionality before and after initiation of cannabinoid therapy, are assessed for further statistical analysis.

Results
Interim analysis of 477 patients showed that more females (74%) than male (26%) were prescribed cannabinoids. Six major diagnostic groups were identified as follows: cancer, multiple sclerosis, neuropathy, fibromyalgia, musculoskeletal pain and other. The prescribed cannabinoid regimens were different in accordance to diagnosis. More than 40% of patients continued cannabinoid treatment beyond six months duration. Final study results will be ready for dissemination by second half of 2020.

Conclusion
It is expected that this study will add new information on efficacy and tolerability among patients receiving cannabinoid therapy against refractory pain manifestations. Furthermore, this study will apply guidance when prescribing cannabinoids for chronic pain conditions.

USE OF CANNABINOID THERAPY IN PATIENTS WITH REFRACTORY CHRONIC PAIN
– A RETROSPECTIVE REGISTRY STUDY OF PATIENTS FOLLOWED IN A DANISH PAIN MANAGEMENT CLINIC

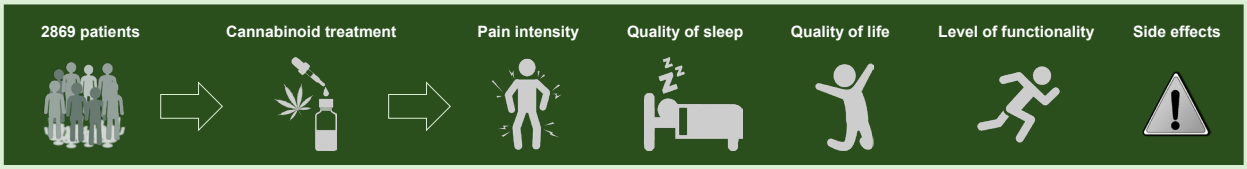
Tina Horsted[1], Karoline Juul Hesthaven[2], Dorthe Brønnum[2], Peter Derek Christian Leutscher[2,3]

[1]The Pain Management Clinic in Farvergade and Clinic Horsted, Copenhagen, Denmark
[2]Centre for Clinical Research, North Denmark Regional Hospital, Hjoerring, Denmark
[3]Department of Clinical Medicine, Aalborg University, Denmark

Introduction
Complex chronic pain disorders cause impairment of daily functionality and reduction of quality of life in most patients. In some patients, adequate symptom relief is not achieved with conventional pain regimens or side effects are intolerable. In this context, cannabinoids are considered as a potential supplementary therapeutic option.

Aim
This study aims to explore efficacy and tolerability of cannabinoids among patients with refractory chronic pain, and also to assess reduction of conventional drugs following initiation of cannabinoid therapy.

Method
A retrospective registry study has been initiated in a population with refractory pain, prescribed cannabinoid therapy in a Danish pain management clinic from March 2016 until December 2018. Patients were prescribed different cannabinoids and/or medicinal cannabis products as whole dried flower, capsule or oil.
Data from patient medical records, before and after initiation of cannabinoid therapy, are assessed for further statistical analysis.



Results
An interim analysis of 477 patients has been conducted. These patients were initially prescribed cannabinoids manufactured at Glostrup Pharmacy in Denmark either as tetrahydrocannabinol (THC), cannabidiol (CBD) or a combination of both.

Demographics
More females (74%) than males (26%) were prescribed cannabinoids. Females were predominantly 50 to 59 years whereas males were 40 to 79 years.

Diagnosis
Six major diagnostic groups were identified. Cannabinoids were prescribed at first consultation in accordance to the following diagnostic groups:

Diagnosis	Prescribed cannabinoid	THC %	CBD %	THC+CBD %
Cancer	Primarily THC	56	18	26
Multiple sclerosis	Primarily CBD	29	53	18
Neuropathy	Primarily THC	82	18	0
Fibromyalgia	Primarily CBD	31	66	3
Musculoskeletal pain	Evenly THC or CBD	47	48	5
Other	Evenly THC or CBD	42	52	7

Follow-up after 6 months

Reasons of discontinuation	%
Inadequate effect	19
Adverse reactions	9
Death	7
Financial situation	7
Driving prohibition	2
Not available	57

Final study results will be ready for dissemination by second half of 2020.

Conclusion
Preliminary results have shown that prescribed cannabinoid regimens were varied in accordance to diagnosis. Also, 42% of patients continued treatment with cannabinoids or medicinal cannabis after 6 months. Inadequate effect (19%) was the most frequently registered reason for discontinuation. However, in a majority of patients (57%) reasons for discontinuation has not been registered.

This study will add new information on efficacy and tolerability among patients receiving cannabinoid therapy against conventional treatment refractory pain. Furthermore, this study will also support development of clinical guidelines using cannabinoids for treatment of chronic pain conditions.

Patientrapporterede oplysninger (PRO) og livskvalitet

36. Fælles beslutningstagning og brugerudført behandling blandt patienter med kronisk nyresygdom

Bente Frydkjær Rømer[1] og Mona Kyndi Pedersen[2,3]

1. Nyremedicinsk Afdeling, Dialyseafsnit Hjørring, Aalborg Universitetshospital, Danmark
2. Center for Klinisk Forskning, Regionshospital Nordjylland, Hjørring, Danmark
3. Forskningsenhed for Klinisk Sygepleje, Aalborg Universitetshospital, Danmark

Baggrund
Patienter med nedsat eller ophævet nyrefunktion har problemer med at udskille fosfat. Forhøjet serumfosfat giver risiko for at udvikle knoglesygdomme og komplikationer relateret til vaskulære calcifikationer, der bl.a. kan forebygges ved indtagelse af fosfatbindere i tilknytning til måltider. Undersøgelser viser, at op mod 50% af patienter i dialyse ikke opnår de rekommanderede værdier for et velreguleret calciumfosfatstofskifte.

Formålet med projektet er at undersøge, om fælles beslutningstagning og deltagelse i et individuelt tilpasset vejledningsforløb kan medføre, at patienten tager en aktiv rolle i egen behandling og opnår et bedre reguleret calciumfosfatstofskifte.

Metoder
På baggrund af fokusgruppeinterview blev der udviklet et beslutningsstøtteværktøj, der blev anvendt sammen med patienter med dysreguleret calciumfosfatstofskifte. Patientens oplevelse af beslutningsprocessen blev evalueret ved hjælp af 2 spørgeskemaer (SDM-Q9 og DCS). Patienterne (n=16) deltog i et individuelt tilpasset vejledningsforløb, evaluereret ved hjælp af spørgeskemaet PAM og udvalgte biomarkører.

Resultater
Patienterne oplevede, at de havde haft grundlag for at træffe et informeret valg og var i stand til at tage en aktiv rolle i deres behandling. Otte patienter opnåede et lavere serumfosfat niveau, hvor fire fortsat havde et ustabilt niveau. Ved fire patienter var der for få målinger til at vurdere en eventuel effekt.

Konklusion
Anvendelsen af et beslutningsstøtteværktøj tydeliggjorde for begge parter, at der var tale om en reel valgsituation. Vejledningsforløbet medførte, at deltagerne tog en aktiv rolle i deres behandling og var bedre i stand til at fastholde de nødvendige livsstilsændringer. Når der arbejdes ud fra en brugerinddragende tilgang ændrer relationen mellem patient og sygeplejerske karakter og bygger i højere grad på en anerkendende dialog.

Fælles beslutningstagning og brugerudført behandling blandt patienter med kronisk nyresygdom

Bente Frydkjær Rømer[1], Vibeke Nymark Jensen[1] og Mona Kyndi Pedersen[2,3]

1. Nyremedicinsk Afdeling, Dialyseafsnit Hjørring, Aalborg Universitetshospital, Danmark
2. Center for Klinisk Forskning, Regionshospital Nordjylland, Hjørring, Danmark
3. Forskningsenhed for Klinisk Sygepleje, Aalborg Universitetshospital, Danmark

Baggrund

Patienter med nedsat eller ophævet nyrefunktion har problemer med at udskille fosfat. Forhøjet serumfosfat giver risiko for at udvikle knoglesygdomme og komplikationer relateret til vaskulære calcifikationer, der bl.a. kan forebygges ved indtagelse af fosfatbindere i tilknytning til måltider. Alligevel opnår op mod halvdelen af patienter i dialyse ikke de rekommanderede værdier for et velreguleret calciumfosfatstofskifte.

Formål

At undersøge om fælles beslutningstagning og efterfølgende deltagelse i et individuelt tilpasset vejledningsforløb kan medføre, at patienten tager en aktiv rolle i egen behandling og opnår et bedre reguleret calciumfosfatstofskifte.

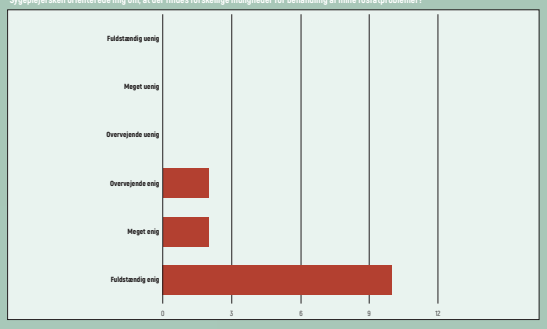
Metode

På baggrund af fokusgruppeinterview blev der udviklet et beslutningsstøtteværktøj, der blev anvendt sammen med patienter med dysreguleret calciumfosfatstofskifte. Patientens oplevelse af beslutningsprocessen blev evalueret ved hjælp af to spørgeskemaer (SDM-Q9 og DCS). Patienterne (n=16) deltog i et individuelt tilpasset vejledningsforløb, evalueret ved hjælp af spørgeskemaet PAM og udvalgte biomarkører.

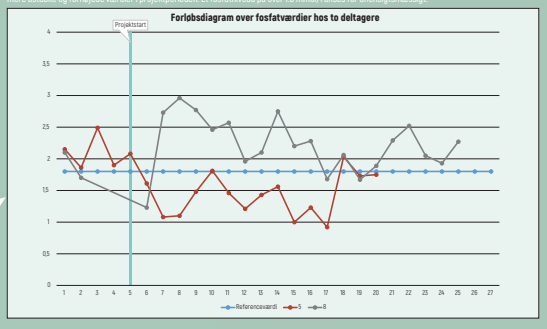
Resultat

Patienterne gav udtryk for, at de havde haft grundlag for at træffe et informeret valg og at de efter vejledningsforløbet var i stand til at tage en aktiv rolle i deres behandling. Vurderet ud fra biomarkører opnåede syv deltagere et stabilt lavere serumfosfat niveau i projektperioden, hvor fem fortsat havde et forholdsvis ustabilt niveau. Ved de resterende fire patienter var der for få målinger til at vurdere en eventuel effekt.

Graf 1. Besvarelse af Spørgsmål 3 fra spørgeskemaet Shared Decision Making (SDM):
"Sygeplejersken orienterede mig om, at der findes forskellige muligheder for behandling af mine fosfatproblemer?"



Graf 2. Forløbsdiagram over fosfatværdier hos to deltagere, hvor deltager 5 (rød) opnåede et lavere serum-fosfatniveau og deltager 8 (grå) oplevede mere ustabile og forhøjede værdier i projektperioden. Et fosfatniveau på over 1.8 mmol/l anses for uhensigtsmæssigt.



Konklusion

Anvendelsen af et beslutningsstøtteværktøj tydeliggør for begge parter, at der er tale om en reel valgsituation. Vejledningsforløbet medfører, at deltagerne tager en aktiv rolle i deres behandling og at de er bedre i stand til at fastholde de nødvendige livsstilsændringer.

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37. Gør det ondt at ryge? En spørgeskema undersøgelse af sundhedskompetence hos patienter med pankreatitis

Morith Østerø Grøne[1], Tina Berg Toldbod[1], Karen Lyng Larsen[1] og Mona Kyndi Pedersen[2]

1. Klinik Kirurgi - Kvinde-Barn, Regionshospital Nordjylland, Hjørring, Danmark
2. Center For Klinisk Forskning, Regionshospital Nordjylland, Hjørring, Danmark

Baggrund
Abdominale smerter er den hyppigste indlæggelsesårsag i forbindelse med akut og kronisk pankreatitis. Alkohol og rygning øger risikoen for at udvikle både akut og kronisk pankreatitis og der ses en direkte sammenhæng mellem rygning og de smerter patienterne oplever. Mange patienter kender ikke sammenhængen mellem rygning, smerter og pankreatitis.

Formålet med projektet er at kortlægge, hvilken viden patienterne har om deres sygdom herunder sammenhæng mellem rygning, smerter og pankreatitis og at undersøge hvilken information, de har fået af læger og sygeplejersker under deres indlæggelse på sygehuset.

Metode
Projektet består af 3 faser og er opbygget som en spørgeskema undersøgelse, efterfulgt af udvikling af en intervention, afsluttet med en evaluering.
Spørgeskemaundersøgelsen er udviklet med afsæt i en model for udvikling af sundhedskompetence og inspireret af et eksisterende spørgeskema. Spørgeskemaet vil blive pilottestet og efterfølgende anvendt til dataindsamling på i alt 25 patienter. Følgende patienter vil blive inkluderet: Voksne rygere i aldersgruppen 18-65 år, indlagt med akut eller kronisk pankreatitis og symptomer i form af forhøjede levertal og mavesmerter. Spørgeskemaerne vil blive udleveret til patienterne og besvares lige inden de udskrives. Dataindsamlingen vil foregå i efteråret 2019.

Resultater
Beskrivelse af patienternes viden om sammenhængen mellem pankreatitis, smerter og rygning. En gruppe af patienter indgår i et panel, der medvirker ved fortolkning af resultaterne.

Konklusion
Vi forventer at få et overblik over patienternes viden, adfærd og motivation for rygestop og/eller rygereduktion. Interventionen i Fase II planlægges med afsæt i resultaterne fra Fase I.

GØR DET ONDT I MAVEN AT RYGE?

En spørgeskemaundersøgelse af sundhedskompetence hos patienter med pankreatitis

Morith Østerø Grøne[1] • Tina Berg Tolbod[1] • Karen Lyng Larsen[2] • Mona Kyndi Pedersen[3]

[1]Klinik Kirurgi, Regionshospital Nordjylland, Hjørring, Danmark
[2]Klinik Kirurgi- Kvinde-Barn, Regionshospital Nordjylland, Hjørring, Danmark
[3]Center For Klinisk Forskning, Regionshospital Nordjylland, Hjørring, Danmark

BAGGRUND

Rygning øger risikoen for at udvikle akut og kronisk pankreatitis og der ses en direkte sammenhæng mellem rygning og de smerter patienterne oplever.

Mange patienter kender ikke denne sammenhæng.

FORMÅL

Formålet med projektet er at kortlægge, hvilken viden patienterne har om sammenhængen mellem rygning, smerter og pankreatitis og at undersøge hvilken information, de har fået af læger og sygeplejersker under deres indlæggelse på sygehuset.

METODE

Metoden til dataindsamlingen foregår som en spørgeskema undersøgelse.

Spørgeskemaet er udviklet med afsæt i en model for udvikling af sundhedskompetence og inspireret af et eksisterende spørgeskema. Der stilles spørgsmål om:

- Hvilken information deltageren har fået om sammenhæng mellem rygning, smerter og pakreatitis
- Deltagerens rygevaner og erfaringer med rygestop eller rygereduktion
- Deltagerens motivation for rygestop eller rygereduktion

Spørgeskemaet vil blive pilottestet og efterfølgende anvendt til dataindsamling på i alt 25 patienter. Spørgeskemaerne vil blive udleveret til deltagerne og besvares lige inden de udskrives.

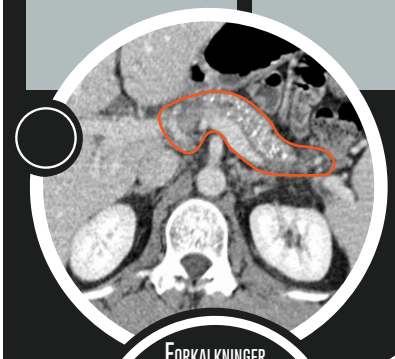
Dataindsamlingen vil foregå i efteråret 2019.

RESULTATER

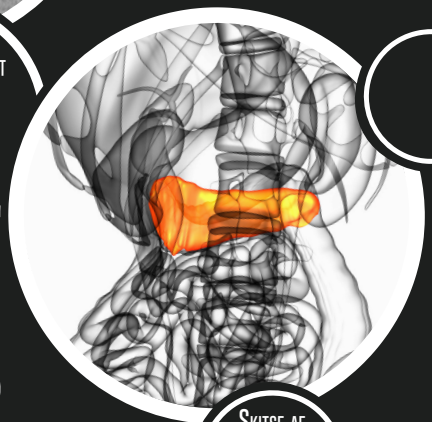
Beskrivelse af patienternes viden om sammenhængen mellem pankreatitis, smerter og rygning.

KONKLUSION

Vi forventer at få et overblik over patienternes viden, adfærd og motivation for rygestop og/eller rygereduktion.



FORKALKNINGER I PANCREAS HOS PATIENT MED PANCREATITIS



SKITSE AF PANCREAS

INKLUSIONSKRITERIER

Følgende patienter vil blive inkluderet:

- Voksne i aldersgruppen 18-65 år
- Rygere
- Indlagt akut med diagnosen pankreatitis og mavesmerter

DEFINITION AF SUNDHEDSKOMPETENCE

De kognitive og sociale kompetencer, der bestemmer motivation og den enkeltes mulighed for at få adgang til, forstå og bruge oplysninger på en måde, der kan fremme og opretholde et godt helbred.

(Oversættelse af WHO´s definition af begrebet Health Literacy)

EKSEMPLER PÅ SPØRGSMÅL FRA SPØRGESKEMA

- Under denne indlæggelse har sygeplejerskerne talt med mig om rygnings indflydelse på smerter i bugspytkirtlen?

Rygevaner og erfaringer:

- Har du i perioder nedsat dit tobaks forbrug?
- Mærkede du nogle positive forandringer i form af færre smerter?

Motivation:

- I hvilken grad er du aktuelt motiveret for rygestop eller nedsættelse af dit tobaksforbrug?

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38. Patients first - A patient generated journal

Ninna Rysholt Poulsen[1,2], Marc Ludwig[2], Winnie Poulsen[2], Peter Derek Christian Leutscher[1,3] and Dorte Melgaard[1]

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2. Emergency Department, North Denmark Regional Hospital, Hjoerring, Denmark
3. Department of Clinical Medicine, Aalborg University, Denmark

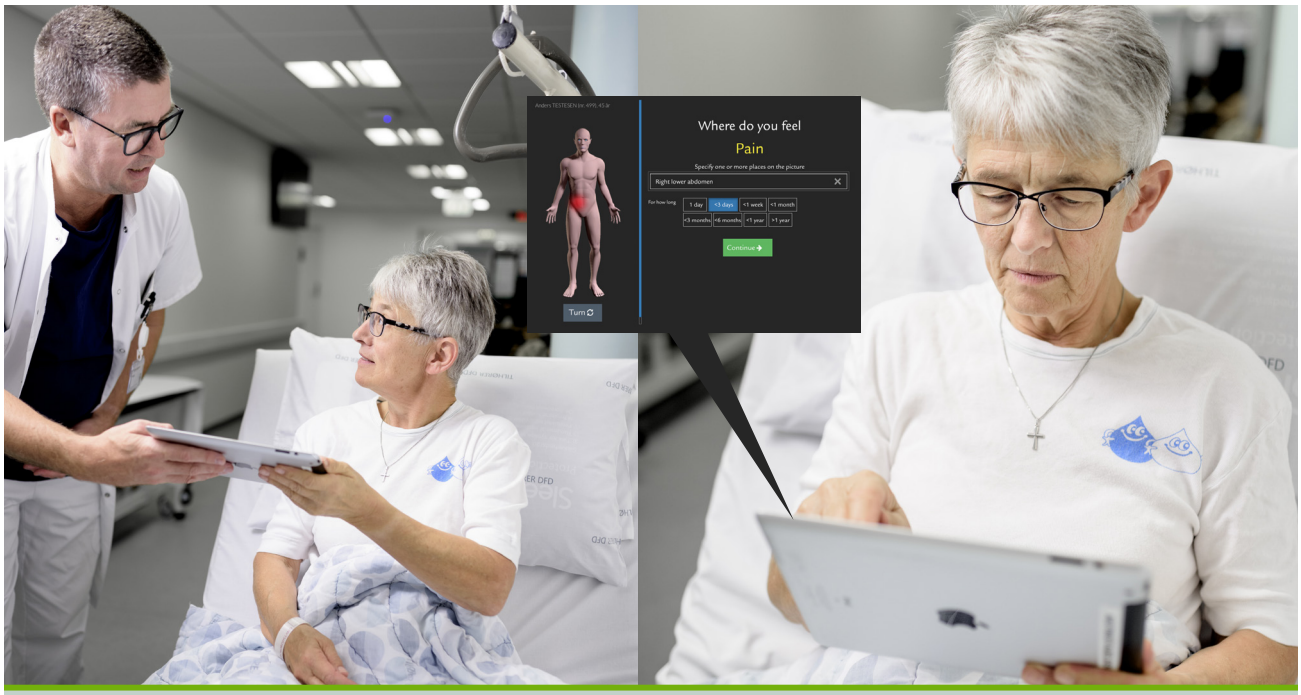
Background
An increase in patients entering through the emergency departments (ED) is consequently putting pressure on the EDs. Thus, a focus on finding the right diagnosis, sometimes results in forgetting patients priorities, leading to patients not feeling involved in decision making and in their own course of admission. Despite focus on finding the right diagnosis, 30% of the patients that call 112 are discharged without a specific diagnose. This advocates for a new way to involve the patients.

The aim of this study is to develop a patient-generated journal (PGJ) filled out by the patient, containing the patient's physical, psychological and social symptoms/needs.

Methods
A PGJ has been developed in the ED in Horsens based on physical symptoms, and this study is founded on the gained experiences. It is a multistudy, including five studies, using mixed-methods. The first four studies aim to develop items for the final questionnaire to be implemented in the PGJ, focusing on the patient's physical, psychological and social aspects, combined with healthcare professional needs. The fifth study is a randomised controlled study, comparing normal procedure to the use of a PGJ, comparing patient satisfaction, diagnostic patterns and re-admissions. The PGJ will be developed and fully implemented in the electronic patient journal.

Results
The outcome measures are: higher amount of patients with a specific diagnosis, higher patient satisfaction and fewer re-admissions by using the PGJ. Results will be available in 2024.

Conclusion
The perspective is to improve the quality of the patient care in the ED.



THE PATIENT FIRST

- A PATIENT-GENERATED JOURNAL IN THE EMERGENCY DEPARTMENT

Ninna Rysholt Poulsen[1,2] • Winnie Poulsen[2] • Marc Ludwig[2] • Malik Kalmriz[3] • Peter Leutscher[1,4] • Dorte Melgaard[1]

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[4]Department of Clinical Medicine, Aalborg University, Denmark

Background

An increase in patient flow through the emergency departments (ED) in the recent years is consequently putting pressure on the workload in the ED. The increasing demand for quick clinical assessment and diagnosing by the health professionals, sometimes lead to forgetting patients priorities in the overall assessment, who may feel disconnected and neglected in the decision making process and in their own admission.

Despite focus on finding the right diagnose, 30% of the patients that call the emergency number 112 are discharged without a specific diagnose. This call for improved involvement of the patients by systematic collection of patient reported outcomes (PRO) in the history-taking process upon admission to the ED.

The aim of our study is to develop universal clinical content for the patient-generated journal (PGJ) completed by the patient, containing physical, social, and psychological complaints and concerns from the patient's own perspective.

Methods

The study found inspiration in the application of the newly developed PGJ technology and the preliminary experience from the Central Denmark Region Hospital, which aimed to collect physical complaints, as a method for screening for symptoms.

Our study is a five-step study, using mixed-methods. The first four studies aim to develop items for the final questionnaire content, to be implemented in the PGJ, focusing on the patient's physical, psychological and social aspects, respectively. Further healthcare professional needs for patient information will be assessed. The fifth study is a randomized controlled study, comparing current clinical assessment and history-taking to a similar assessment with a PGJ add-on to evaluate diagnostic outcome, patient satisfaction, and re-admissions rates.

The PGJ will be developed and fully integrated in the electronic patient journal (EPJ).

Perspective

The perspective of this study could be an improved clinical assessment and diagnosing of patients, by involving them more actively in the process and in the admission by using the PGJ. As a result, a higher diagnostic yield rate may be achieved in conjunction with higher level of patient satisfaction and fewer re-admissions.

Final results will be available in 2024.

NORTH DENMARK REGIONAL HOSPITAL

CKF | CENTRE FOR CLINICAL RESEARCH North Denmark Regional Hospital

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39. Associations of health literacy with health-related quality of life: A combined register- and survey-based cross-sectional population study

Majbritt Tang Svendsen[1,2], Kristine Sørensen[3], Signe Juul Riddersholm[4], Gitte Nielsen[1], Regitze Kuhr Skals[5], Henrik Bøggild[5,6], Christian Torp-Pedersen[7] and Karin Dam Petersen[8]

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7. Department of Clinical Investigation, North Zealand Hospital, Hilleroed, Denmark
8. Department of Business and Management, Aalborg University, Denmark

Background
Health literacy has been found to affect the often-used patient-reported outcome measure health-related quality of life (HRQL). Research concerning the multidimensional concept of health literacy, encompassing the ability of citizens to meet the complex demands of health in modern society, with HRQL remains scarce.

The present study aims to examine the relationship between health literacy and HRQL.

Methods
A cross-sectional nationwide survey linked to administrative registry data was applied to a randomly selected sample of 1,082 Danish adults. Health literacy was assessed using the multidimensional HLS-EU-Q16 and HRQL using the EQ-5D-5L instrument. Logistic regression analyses, adjusted for potential confounders, were performed to examine associations.

Results
A total of 804 participants completed the survey. Overall, 51.2% (N=412) of the respondents showed limited health literacy. Respondents with limited health literacy had a significantly lower EQ-5D-5L utility score compared to those with adequate health literacy (P<0.001). A statistically significant correlation (rho=0.18, P<0.001) between the HLS-EU-Q16 scale value and the EQ-5D-5L utility score was found. Multivariable regression models demonstrated that respondents with limited health literacy had significantly higher risk of having problems within all five EQ-5D-5L dimensions (mobility, self-care, usual activity, pain/discomfort, anxiety/depression), particularly within the domain of self-care [OR: 12.08 (95%CI: 4.11; 35.46)].

Conclusion
Limited health literacy was pronounced and independently associated with poorer HRQL. These findings highlight the need for multi-level interventions to increase the general adult populations' health literacy and calls for economic evaluations supporting health authorities considering the value of initiatives for people with inadequate health literacy.

ASSOCIATIONS OF HEALTH LITERACY WITH HEALTH-RELATED QUALITY OF LIFE

A COMBINED REGISTER- AND SURVEY-BASED CROSS-SECTIONAL POPULATION STUDY

Majbritt Tang Svendsen[1,2] • Kristine Sørensen[3] • Signe Juul Riddersholm[4] • Gitte Nielsen[1] • Regitze Kuhr Skals[5] • Henrik Bøggild[5,6] • Christian Torp-Pedersen[7] • Karin Dam Petersen[8]

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BACKGROUND

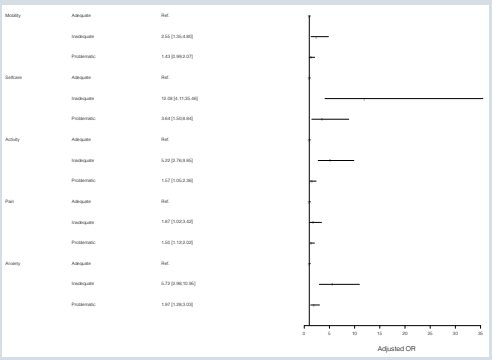
Health literacy is an often overseen aspect of the successfulness of healthcare and prevention programs and has been found to affect the often used patient-reported outcome measure health-related quality of life (HRQL).
Knowledge on the multidimensional concept of health literacy, encompassing the ability of citizens to meet the complex demands of health in modern society, with HRQL in general populations remains scarce.
The present study aims to examine the relationship between health literacy and HRQL in a national representative population. If a direct and positive association of health literacy with HRQL exists it will be possible to perform economic evaluations providing essential information to assist health authorities, to evaluate and compare healthcare interventions and preventive programs in terms of 'value for money'.

METHODS

A cross-sectional nationwide survey linked to administrative registry data was applied to a randomly selected sample of 1,082 Danish adults. The survey was conducted by telephone between December 2016 and February 2017. Health literacy was assessed using the multidimensional HLS-EU-Q16 and HRQL using the EQ-5D-5L instrument. Logistic regression analyses for each dimension of EQ-5D-5L, adjusted for potential confounders, were performed to examine associations.

RESULTS

A total of 804 participants completed the survey. The median scores of the health literacy scale value and the HRQL were 12,0 [Q1:11.0, Q3:14.0] and 0.8590 [Q1: 0.7870, Q3: 1.000], respectively. Overall, 6.8% (N=55) of the respondents showed inadequate health literacy, 44.4 % (N=357) problematic health literacy, and 48.7 % (N=392) adequate health literacy. Respondents with inadequate health literacy were more likely to report difficulties on all five EQ-5D-5L dimensions and had a significantly lower EQ-5D-5L utility score compared to those with problematic and adequate health literacy (P<0.001).
A statistically significant correlation (rho=0.18, P<0.001) between the HLS-EU-Q16 scale value and the EQ-5D-5L utility score was found. Multivariable regression models demonstrated that respondents with inadequate health literacy had higher odds of having problems within all five EQ-5D-5L dimensions (mobility, self-care, usual activity, pain/discomfort, anxiety/depression), compared to respondents with adequate health literacy, particularly within the domain of self-care [OR: 12.08 (95%CI: 4.11; 35.46)].



CONCLUSIONS

Low health literacy was pronounced and independently associated with poorer HRQL at a population level.
These findings highlight the need for multi-level interventions to increase the general adult populations' health literacy and calls for economic evaluations supporting health authorities considering the value of initiatives for people with inadequate health literacy.

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Sundhedsfaglig udvikling

40. Når lægen selv skriver journalen - Afprøvning af nyt journalkoncept med hybrid af klik- og tekstfelter

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2. Akutmodtagelsen, Regionshospital Nordjylland, Hjørring, Danmark
3. Digitalisering og IT, Region Nordjylland, Aalborg, Danmark
4. Klinisk Institut, Aalborg Universitet, Danmark

Baggrund

Patientsikkerhed prioriteres højt på danske hospitaler. Det er i den forbindelse vigtigt at den primære patientjournal foreligger tidligt i det akutte indlæggelsesforløb. På Regionshospital Nordjylland arbejder vi med metoder til at sikre at journalen er tilgængelig med mindst mulig forsinkelse.

Med dette projekt sammenligner vi tidsfaktorer for Klikjournal-optagelse (en hybridjournal med klik- og tekstfelter) i forhold til konventionel journaloptagelse, og vi undersøger brugertilfredsheden med Klikjournalen hos den journalskrivende læge.

Metode

Syv læger i Klinisk Basis Uddannelse (test-læger) anvendte Klikjournal i Akutafdelingen på Regionshospital Nordjylland i perioden 1. november-31. december 2019. Tidsforbrug blev undersøgt via dataudtræk fra logning af aktivitet i journalsystemet og efterfølgende sammenlignet med andre lægers tidsforbrug ved konventionel journaloptagelse. Brugertilfredsheden hos de journalskrivende læger blev belyst ved fokusgruppeinterview.

Resultater

Tidsforbrug

I Akutafdelingen blev der udført 887 klikjournal-optagelser, heraf 423 (48 %) fra testlægerne samt 792 konventionelle journaloptagelser. Gennemsnitlig registreringstid i Klikjournal for de 7 testlæger var 11 minutter (median 3 minutter)

Median tid fra patienten ankom til sygehuset og til journalen var tilgængelig i systemet var 4,8 timer for Klikjournal mod 6,4 timer for konventionel journaloptagelse.

Brugertilfredshed

Lægen oplever at:

- Klikjournalen tager længere tid
- Klikjournalen er et langsomt system og der er ventetid på mange arbejdsgange
- Der er spændende muligheder for udvikling
- Systemer som Klikjournal bliver fremtidens journalredskab

Konklusion

Klikjournalen kan reducere den tid som går fra patienten ankommer til sygehuset og til journaloptagelsen er tilgængelig i journalsystemet. Derimod oplever lægen at arbejdet med Klikjournal giver udfordringer og tager længere tid. En brugertilpasset udvikling af Klikjournal kan med fordel igangsættes.

NÅR LÆGEN SELV SKRIVER JOURNALEN

AFPRØVNING AF NYT JOURNALKONCEPT MED HYBRID AF KLIK- OG TEKSTFELTER

Dorthe Brønnum[1] • Maika Shakar[2] • Camilla Stefansen[3] • Peter Leutscher[1, 4]

[1]Center for Klinisk Forskning, Regionshospital Nordjylland • [2]Akutafdelingen, Regionshospital Nordjylland • [3]Digitalisering og IT, Region Nordjylland • [4]Klinisk Institut, Aalborg Universitet

1 Introduktion

Patientsikkerhed prioriteres højt på danske hospitaler. Det er i den forbindelse vigtigt, at den primære patientjournal foreligger tidligt i det akutte indlæggelsesforløb. På Regionshospital Nordjylland arbejder vi med metoder til at sikre, at journalen er tilgængelig med mindst mulig forsinkelse.

Formålet med dette projekt er at undersøge tidsfaktorer for og tilfredshed med Klikjournalen (en hybridjournal med klik- og tekstfelter) hos den journalskrivende læge.

2 Metode

Klikjournal blev afprøvet i Akutafdelingen på Regionshospital Nordjylland i perioden 1. november-31. december 2018.

Syv læger i Klinisk Basis Uddannelse anvendte Klikjournal i 2 måneder i Akutafdelingen

Analyse af tidsforbrug

Tidsfaktorer, fra en patient indlægges og indtil det primære indlæggelsesnotat er tilgængeligt i journalen, blev undersøgt ved hjælp af dataudtræk fra logging af aktivitet i journalsystemet.

Tidsfaktorer for Klikjournalen blev derefter sammenlignet med tidsfaktorer ved konventionel journaloptagelse.

Fokusgruppeinterview

De journalskrivende læger deltog i to fokusgruppeinterview med henholdsvis 3 og 4 deltagere.

Udvalgte temaer vedrørende brugertilfredshed blev diskuteret.

3 Resultater

I Akutafdelingen blev der i perioden 1. november-31. december 2018 udført 887 klikjournaloptagelser, heraf 423 (48 %) fra testlægerne samt 792 konventionelle journaloptagelser.

Tidsforbrug

Gennemsnitlig registreringstid i Klikjournal for de syv læger var 11 minutter (median 3 minutter).

Tabel 1. Median tid fra patienten ankom til sygehuset, og til det primære indlæggelsesnotat var tilgængelig i journalsystemet.

	Klikjournal	Konventionel journal
Median tid	4,8 timer	6,4 timer

Brugertilfredshed

Lægerne oplevede at:

- Der bruges længere tid på Klikjournalen.
- Klikjournalen er et langsomt system, og der er ventetid på flere arbejdsgange.
- Der er spændende muligheder for videreudvikling.
- Systemer som Klikjournal bliver fremtidens journalredskab.

4 Konklusion

Klikjournalen kan reducere den tid, som går, fra patienten ankommer til sygehuset, og til det primære indlæggelsesnotat er tilgængelig i journalsystemet. Derimod oplever lægen, at arbejdet med Klikjournal giver udfordringer og tager længere tid. En brugertilpasset udvikling af Klikjournal kan med fordel igangsættes.

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41. Løft af sygeplejefaglig identitet og engagement i et elektivt operationsafsnit

Mette Kirkegaard[1] og Jette Hjorthede Christoffersen[1]

1. Klinik Kirurgi- Kvinde-Barn, Regionshospital Nordjylland, Frederikshavn, Danmark

Baggrund
Der findes ikke en overordnet retningslinje eller uddannelse for operationssygepleje. Fagligt selskab for operationssygeplejersker (FSOP) under DSR, har udarbejdet kompetencekort til nyansatte operationssygeplejersker. Nationalt er der et ønske om et fælles produkt, der kan anvendes på alle operationsafsnit og som præciserer hvilke kompetencer, der kan sikre ensartet oplæringsforløb af høj kvalitet. På operationsafsnittet er den "ikke- instrumentelle" sygeplejes betydning for patienten et fokusområde. Enneagrammet benyttes for at berige sygeplejerskernes kompetencer på det personlige plan i forhold til kommunikation og teamsamarbejde.

Formålet med projektet er at give operationssygeplejen et fagligt løft og derved fastholde, uddanne og rekruttere sygeplejersker til operationsafsnittet. Anvendelse af Enneagrammet kan medvirke til, at identificere styrker og faldgruber i kommunikation og teamsamarbejdet på operationsstuen.

Metode
I projektet har de erfarne operationssygeplejersker anvendt de 9 kompetencekort udarbejdet til de nyansatte.
Operationssygeplejerskerne anvender et kompetencekort af gangen. Der er forberedelsestid og litteratur operationssygeplejersken skal læse, før hun kan "tage" kompetencekortet. Herefter en teoretisk samtale. Tidsrammen er 30 min i forbindelse med morgenmøde. To og to sidder man sammen og gennemgår kompetencekortet. Når der opstår spørgsmål, bliver disse efterfølgende drøftet i plenum.

I projektperioden har der været afholdt temadag om Enneagrammet og typebestemmelse ved Morten Gelbek, Enneagram-instituttet, Aalborg.

Resultat
Det forventes, at et parallelt arbejde med kompetencekort og Enneagrammet giver en styrkelse i de kompetencer, der er betydningsfulde for at imødekomme patienternes og professionens krav om kvalitet, teamarbejde, udvikling og evidensbaseret sygepleje på operationsstuen.

Konklusion
Vi forventer, at kobling af personlig og faglig udvikling vil fremme sygeplejefaglig identitet, engagement og udvikling.

Løft af sygeplejefaglig identitet og engagement i et elektivt operationsafsnit

Mette Kirkegaard[1] • Jette Hjorthede Christoffersen[1]
[1]Kirurgisk Afdeling, Operationsafsnittet Frederikshavn, Regionshospital Nordjylland
Kontaktoplysninger: Mette Kirkegaard, mette.kirkegaard@rn.dk

Baggrund

Indenfor operationssygeplejen er der fokus på at styrke de kompetencer, der er betydningsfulde for at imødekomme patienternes og professionens krav om kvalitet, teamarbejde, udvikling og evidensbaseret sygepleje.

Formål

Formålet med projektet er at give operationssygeplejen et fagligt løft og derved fastholde, udddanne og rekruttere sygeplejersker til operationsafsnittet.

Metode

Projektet kobler indsatser rettet mod henholdsvis faglig og personlig udvikling.

Den faglige udvikling tager udgangspunkt i ni kompetencekort (fig. 1). Arbejdet med kompetencekortet indebærer: Teori, praksis og refleksion (box 1).

Den personlige udvikling tager udgangspunkt i typebestemmelse ud fra Enneagrammet (fig. 2).

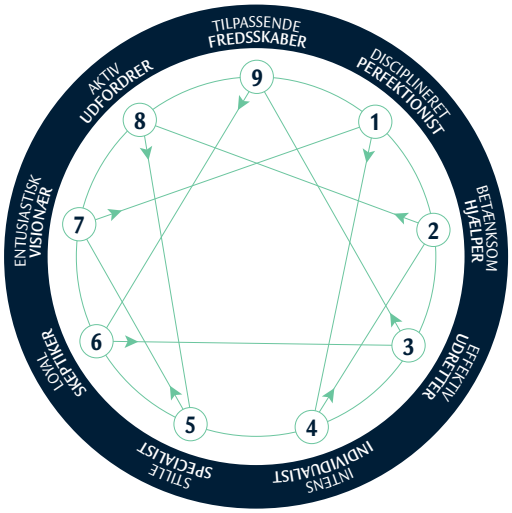
Der identificeres styrker og faldgruber i kommunikation og teamsamarbejdet på operationsstuen (box 2).

Perspektiver

Vi forventer, at kompetenceudvikling, der kobler faglig og personlig udvikling, vil fremme sygeplejefaglig identitet, engagement og faglig udvikling.

Fig. 1: Kompetencekort for nyansatte - FSOP - DSR

Fig. 2: Enneagrammet - Enneagraminstituttet Aalborg v/Morten Gelbek



Boks 1: Arbejdet med kompetencekort indebærer faglig diskussion og refleksion

Faglig udvikling

Faglige diskussioner
Refleksion over tekniske færdigheder kontra ikke-tekniske færdigheder

Boks 2: Arbejdet med personlig udvikling via Enneagrammet indebærer typebestemmelse og refleksion

Personlig udvikling

Typebestemmelse
Refleksion over egne styrker og svagheder i kommunikation og samarbejde

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42. Perler på en snor - et speciale i Organisatorisk Coaching og læring med fokus på coachingbaserede udviklingsprocesser med grupper ved hjælp af aktionsforskning

Liselotte Ingemann Pedersen[1] og Helle Thaarup Christiansen[2]

1. Hospitalets Stab, Regionshospital Nordjylland
2. Ældremedicinsk Afsnit, Medicinsk Afdeling, Regionshospital Nordjylland

Baggrund
En fortravlet hverdag presser sygeplejerskers refleksion over sygeplejen og kvalitetsudviklingen. Forskning påpeger, at sygeplejen bliver utydelig, når væsentlige kernekompetencer i sygeplejen vanskeligt italesættes. Hospitalsvæsnets hyppige forandringer fordrer faglig ekspertise, hvor sygeplejerskernes bevidsthed om egen viden, kan kombineres og sættes i spil i omskiftelige kontekster.

Studiets første fokus: Undersøgelse af hvordan et coachingbaseret aktionsforskningsprojekt understøttede udviklingssygeplejersker i processen, hvor viden - samskabt i et refleksivt rum - kunne transformeres til aktiv handling i egen praksis.

Studiets andet fokus: Identifikation af fænomenet transfer, samt hvordan coaching ud fra en narrativ tilgang kunne stimulere til transfer.

Metode
Aktionsforskningsprojektet med induktivt kvalitativt studie af transskriberede lydfiler fra 3 mødeseancer, afholdt i refleksivt rum med medforskerne, samt medforskernes personlige narrativer. Baggrunden for analysen: Transskriberede nedslag fra lydfiler.
Mødeseancerne er en del af aktionsforskningsprocessen, hvor den evaluerende, rekonstruerende og planlæggende del af medforskernes prøvehandlinger var i fokus.

Results
Medforskerne udviklede specifik transfer gennem særlige tale- og lytte-positioner i en narrativ bevidningsproces. Ønsker om anvendelse i anderledes kontekster tydede på transfer.
Coachen medvirkede som rollemodel og facilitator og bidrog til stimulering af specifik transfer.
Yderligere ansats til udvikling af transfer, ses ved medforskernes udvidelse af forståelsesramme, nye forholdemåder og nye erkendelser.

Identitikation af transfer:
- Narrativ bevidning styrker identitetsforståelsen og øger medforskerens rolle som agent i udviklingstiltag i organisationen.
- Sprogets diskursive magt frisætter medforskerne fra dominerende fortællinger og genforfatter egen identitet.
- Skriftlige fortællinger fastholder og synliggør nye erkendelser.
- Transformative fortællinger skaber anderledes mulighedsrum for handling.
- Metaforer, som eksternaliserende sprogbrug, giver mulighed for italesættelse af kropsligt indlejrede erfaringer.

Konklusion
Aktionsforskningsprojektet viser, at en narrativ tilgang til coaching i høj grad understøtter muligheden for udvikling af transfer.

PERLER PÅ EN SNOR

Pedersen, Liselotte[1] • Christiansen, Helle Thaarup[2]

[1]*Hospitalets Stab, Regionshospital Nordjylland*
[2]*Ældremedicinsk Afsnit, Medicinsk Afdeling, Regionshospital Nordjylland*

Et speciale i organisatorisk coaching og læring med fokus på coachingbaserede udviklingsprocesser med grupper ved hjælp af aktionsforskning

BAGGRUND

Oplevelse
En fortravlet hverdag presser sygeplejerskers refleksion over sygeplejen og kvalitetsudviklingen.

Forskere påpeger, at sygeplejen bliver utydelig, når væsentlige kernekompetencer i sygeplejen vanskeligt italesættes.

Hospitalsvæsnets hyppige forandringer fordrer faglig ekspertise, hvor sygeplejerskernes bevidsthed om egen viden kan kombineres og sættes i spil i omskiftelige kontekster.

FORMÅL

Studiets fokus
Hvordan kan et coachingbaseret aktionsforskningsprojekt understøtte udviklingssygeplejersker i processen, hvor viden, samskabt i refleksivt rum, transformeres til aktiv handling i egen praksis?

Studiets andet fokus
Hvordan kan coachingtiltag fra narrativ tilgang stimulere til transfer.

METODE

Aktionsforskningsprojektet med induktivt kvalitativt studie af transskriberede lydfiler fra 3 møder, afholdt i refleksivt rum med medforskerne samt medforskernes personlige narrativer.

Baggrunden for analysen
Transskriberede nedslag herfra.

Møderne er en del af aktionsforskningensprocessen, hvor den evaluerende, rekonstruerende og planlæggende del af medforskernes prøvehandlinger var i fokus.

RESULTAT

Medforskerne udvikler specifik transfer ved særlige tale- og lytteposition i narrativ bevidningsproces. Ønsker om anvendelse i anderledes kontekster tyder på transfer.

Ansats til udvikling af transfer ses ved medforskernes udvidelse af forståelsesramme, nye forholdemåder og nye erkendelser.

Identifikation
- Narrativ bevidning, styrker identitetsforståelsen, øger medforskerens agentheden i udviklingstiltag i organisationen.
- Sprogets diskursive magt, frisætter medforskerne fra dominerende fortællinger og genforfatter egen identitet.
- Skriftlige fortællinger, fastholder og synliggør nye erkendelser.
- Transformative fortællinger, skaber anderledes mulighedsrum for handling.
- Metaforer og eksternaliserende sprogbrug giver mulighed for italesættelse af kropsligt indlejrede erfaringer.

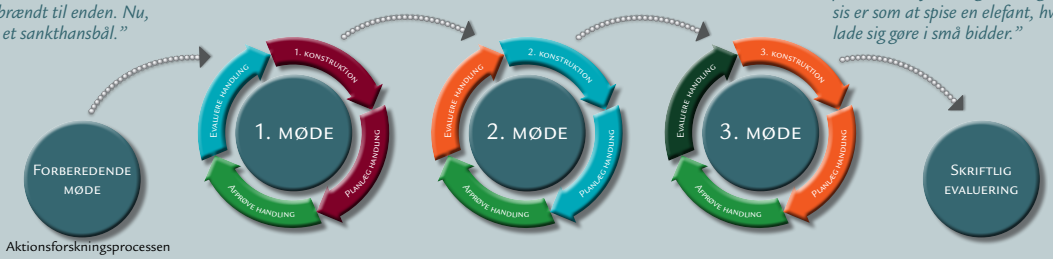
KONKLUSION

Aktionsforskningsprojekt viser narrativ tilgang til coaching i høj grad understøtter mulighederne for udvikling af transfer.

"Jeg følte mig frustreret, i "ingenmandsland" og kæmpede med en dårlig samvittighed over "ikke at slå til". Gnisten, gejsten, lysten, glæden var der stadig men på lavt blus, som en lille tændstik snart brændt til enden. Nu, nu blænder der et sankthansbål."

"Jeg lærte af de andre deltagere, at jeg har en "evne" til at se tingene fra mange forskellige vinkler og derfor ikke lader mig stoppe af den første modstand og forhindringer, men i stedet ser det som muligheder for at gå andre veje."

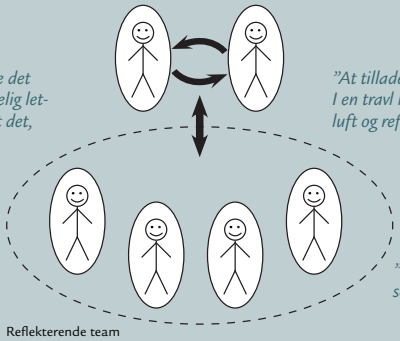
"Jeg er blevet bevidst om, at projekter i praksis er tidskrævende, og jeg skal være åben for tilbagemeldinger, lytte til den respons jeg fik, i stedet for gå i forsvarsposition. Projekter og ændringer i praksis er som at spise en elefant, hvilket kun lade sig gøre i små bidder."



Aktionsforskningsprocessen

"Det at få tid og rum til at trække sig tilbage og se det hele lidt i helikopterperspektiv, så bliver det pludselig lettere at se klart og få overblik. Jeg ser tydeligere alt det, jeg gør, frem for alt det jeg ikke gør."

"At tillade og planlægge refleksion gør en kæmpe forskel. I en travl hverdag får man aldrig mærket efter, og uden luft og refleksion tror jeg, at man brænder ud."



"Når man øver sig i at lytte - "forholde sig tavs", så hører man noget andet, end når man er i dialog og fokuserer på at forklare og argumentere."

"Kombination mellem refleksion i team og med sig selv på skrift rykker selv på få seancer."

Reflekterende team

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43. Læger med uddannelse uden for Danmark– et kvalitativt studie af sprog og kommunikation

Dorte Melgaard[1], Signe Westmark[1], Andreas Lindgaard[1] og Peter Derek Christian Leutscher[1,2]

1. Kardiologisk Afdeling, Regionshospital Nordjylland, Hjørring, Danmark
2. Center for Klinisk Forskning, Regionshospital Nordjylland, Hjørring, Danmark

Baggrund
Mere end halvdelen af speciallægerne på Regionshospital Nordjylland har erhvervet deres medicinske embedseksamen uden for Danmark.

Formålet med dette studie er at skabe indsigt i hvorledes sundhedsfagligt personale samt patienter oplever forskellige aspekter af sprog og kommunikationen i hverdagen i forhold til læger med udenlandsk uddannelse.

Metoder
I forbindelse med forberedelserne af en større spørgeskemaundersøgelser blandt sundhedsfaggrupper i de tre vestdanske regioner blev der i perioden maj-juni 2019 gennemført 20 interviews af 5 personer i hver af følgende grupper: patienter samt læger uddannet i udlandet, læger uddannet i Danmark og sygeplejersker ansat på Regionshospital Nordjylland. Interviewene blev udført af en sociolog med brug af en åben, induktiv tilgang.

Resultater
Patienterne udtrykker, at kommunikationen med de udenlandske læger flyder bedre, når sygeplejerskerne har været involverede "*..de læger jeg mødte, de har tit været bakket op af sygeplejersker, så jeg synes ikke sådan, at jeg har mødt nogle større misforståelser*". De udenlandske læger udtrykker, at de har udbytte af et tæt samarbejde med sygeplejerskerne: "*jeg prøver, altså jeg har et system med sygeplejerskerne når de siger, at det ikke går så fuldstændig godt, de overtager lidt kommunikationen sygeplejerskerne*". Sygeplejerskerne giver udtryk for, at de ser det som et ansvarsområde at sikre, at kommunikationen mellem læger og patienter fungerer.

Konklusion
Samlet set oplever hverken patienter eller læger større udfordringer i den daglige kommunikation. Det er dog vigtigt at være opmærksom på, at sygeplejerskerne ofte har en yderst vigtig rolle i forhold til at understøtte kommunikationen mellem netop patienter og læger generelt.

LÆGER MED UDDANNELSE UDEN FOR DANMARK

- ET KVALITATIVT STUDIE AF SPROG OG KOMMUNIKATION

Dorte Melgaard[1] • Signe Westmark[1] • Andreas Lindgaard[1] • Peter Derek Christian Leutscher[1, 2]

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- Patienter
- Læger uddannet i udlandet
- Læger uddannet i Danmark
- Sygeplejersker

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De udenlandske læger udtrykker, at de har udbytte af et tæt samarbejde med sygeplejerskerne: *"Jeg prøver, altså jeg har et system med sygeplejerskerne når siger at det ikke går så fuldstændig godt, de overtager lidt kommunikationen sygeplejerskerne"*.

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Det er dog vigtigt at være opmærksom på, at sygeplejerskerne ofte har en yderst vigtig rolle i forhold til at understøtte kommunikationen mellem netop patienter og læger generelt.

Sygeplejerskerne giver udtryk for, at de ser det som et af deres ansvarsområder, at kommunikationen mellem læger og patienter fungerer:

Men det er en væsentlig rolle som sygeplejerske nu om dage, og den er man nødt til at tage på sig, og jeg synes også, at det giver en respekt, altså både i forhold til lægen men også til patienten, at man ligesom tager ansvar for, at kommunikationen kører godt, at alle blive hørt sådan set"

De danske læger giver udtryk for, at det primært kan være vanskeligt at kommunikere med udenlandske læger fra andre afsnit:

"Nogle gange har der været lidt sproglig barriere, hvor man sådan lige tænker: Gad vide... hvad var det lige, personen sagde, eller man er sådan lidt i tvivl om personen forstod det, man selv sagde, men det er meget sjældent, synes jeg"

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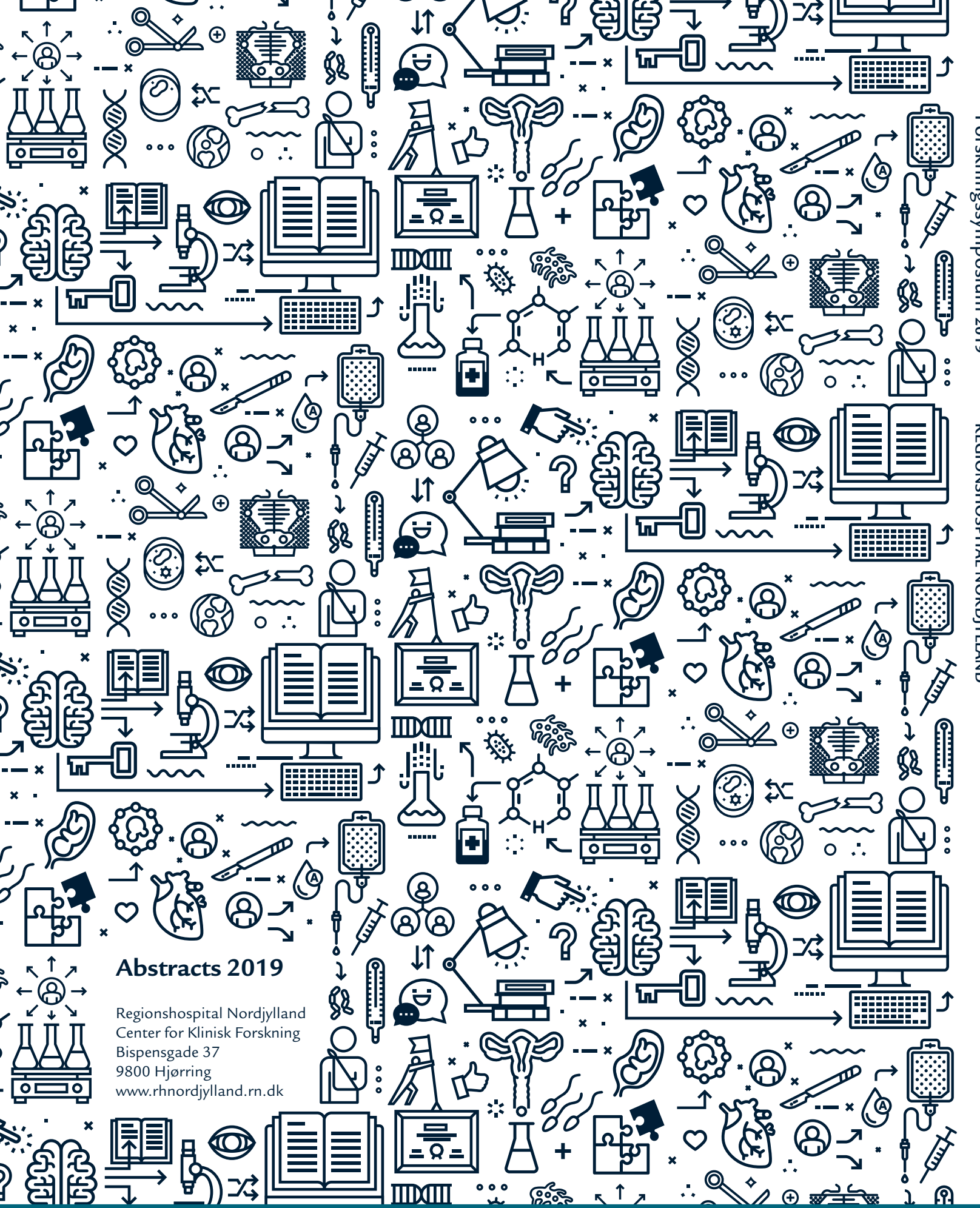
Noter



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