Symposium 2015

Patienten i Fokus

Abstracts
Forord
Det er med stor glæde, vi byder velkommen til Regionshospitalet Randers’ forskningssymposium 2015, der – under temaet Patienten i Fokus – har til formål at præsentere projekter med fokus på at forbedre diagnostik og patientbehandling.

Det overordnede formål med symposiet er at skabe synlighed samt inspirere til nye projekter og udvikling, der kommer patienterne til gavn.

Som det fremgår af programmet har vi valgt at vise bredden med præsentation af forskellige typer af projekter, både hvad angår emner og metoder. Symposiet er således med til at vise mangfoldigheden og kompleksiteten af de kliniske opgaver, der skal løses på et regionshospital.

Forskningschef ved Regionshospitalet Randers, Peter Leutscher, indleder dagens program.

Institutleder ved Klinisk Institut, Kristar Skajaa, beriger os med sine tanker om, hvorfor det netop er vigtigt at drive patientrelateret forskning på regionshospitalerne.

Vi ønsker alle deltagere en udbytterig dag.

Peter Leutscher  Lone Winther Jensen
Forskningschef  Lægefaglig direktør
Regionshospitalet Randers  Regionshospitalet Randers

Oktober 2015
Regionshospitalet Randers, Skovlyvej 1, 8930 Randers NØ
Programme

15:00 Welcome: Dr. Peter Leutscher, Head of Research Unit at the Regional Hospital of Randers

15:15 Why practise patient related research on regional hospitals?
Dr. Kristjar Skajaa, Head of Department of Clinical Medicine at Aarhus University

15:45 Rapid Fire about ongoing and future research projects at the Regional Hospital of Randers
Moderator: Dr. MetteSpliid Ludvigsen, Senior Researcher

16:45 Poster Walk
Moderator: Dr. Peter Leutscher, Head of Research Unit at the Regional Hospital of Randers,

17:45 Research dating and coffee

18:15 Oral Presentations:
Moderator: Dr. Lone Winther Jensen, Clinical Director at the Regional Hospital of Randers

1. Biphasic Truncated Exponential Waveform is Superior Compared to Pulsed Biphasic Waveform in Cardioverting Atrial Fibrillation and Atrial Flutter - A Randomized Controlled Trial - by Medical Student Anders Sjørslev Schmidt

2. Assessing Patient Reported Outcome Measures preoperatively is beneficial in selecting patients for Shoulder Acromioplasty. A prospective study of 251 patients suffering from Impingement of the Shoulder - by Medical Student Jón Rói Jacobsen


4. What are the needs and preferences for information about colorectal cancer screening among citizens with lower educational attainment - by Dr Pia Kirkegaard, postdoc

5. Cardiac ultrasound during cardiac arrest has the potential to detect pulmonary embolism as a reversible cause of cardiac arrest when compared to hypoxia and ventricular fibrillation - by Ph.d Student Rasmus Aagaard

19:30 Dinner
- Speech by Dr. Niels Holmark Andersen, Senior consultant, Department of Cardiology at Aarhus University Hospital

- Announcement of prize-winners
Abstracts – Oral Presentation

1. Biphasic Truncated Exponential Waveform is Superior Compared to Pulsed Biphasic Waveform in Cardioverting Atrial Fibrillation and Atrial Flutter - A Randomized Controlled Trial

Anders Sjørslev Schmidt4,7; Kasper Glerup Lauridsen,4; Kasper Adelborg1,2; Leif Frausing Bach 5; Simon Munkersø Jepsen; Nete Hornung6; Charles Deakin3; Hans von Hofe Rickers2; Bo Løfgren1,2

1Department of Internal Medicine, Regional Hospital of Randers; 2Research Center for Emergency Medicine, Aarhus University, Aarhus, Denmark; 3Department of Anesthetics, University Hospital Southampton, Southampton, UK; 4Clinical Research Unit, Randers Regional Hospital; 5Department of Anesthetics, Randers Regional Hospital; 6Department of Clinical Biochemistry, Randers Regional Hospital; 7Medical Department, Randers Regional Hospital

Background
Several different biphasic waveforms are currently in clinical use, but few studies have compared their efficiency. The aim of this study was to compare the efficiency of a biphasic truncated exponential (BTE) waveform with a pulsed biphasic waveform (PBW) in patients undergoing elective cardioversion of atrial fibrillation and atrial flutter.

Methods
This is a prospective, single-center, randomized controlled trial. Patients admitted for elective cardioversion for atrial fibrillation and atrial flutter were eligible for inclusion, and enrolled between September 2013 and August 2014. Patients were randomized to receive cardioversion using either a BTE (LIFEPAK 20, Physio-Control Inc., Redmond, WA, USA) or a PBW (Multipulse Biowave ®), (Schiller Defigard 5000, Schiller AG, Baar, Switzerland). We used escalating shock protocols: BTE; 100 J, 150 J, 200 J, 250 J and PBW; 90 J, 120 J, 150 J, 200 J, according to the pre-specified settings of the respective defibrillators. All shocks were delivered with an anterior-posterior pad position. The primary outcome was successful cardioversion, defined as sinus rhythm at discharge 4 hours post cardioversion.

Results
In total 134 patients were randomized; 64 patients received cardioversion by BTE (mean age 66.3 years, 22 % female, 14% atrial flutter), and 70 patients PBW (mean age 66.4 years, 26 % female, 14% atrial flutter). When using BTE 56 (88%) patients were successfully cardioverted versus 43 (61%) when using the PBW (p=0.001). The median count of total shocks delivered was 2 (interquartile range, 1-3) for the BTE and 3 (1-4) for the PBW.

Conclusion
Biphasic truncated exponential waveform is superior compared to pulsed biphasic waveform in cardioverting atrial fibrillation and atrial flutter.

Jón Rói Jacobsen 1,2; Søren Deutch 1; Carsten Moss Jensen 1

1 Department of Orthopedics, Regional Hospital of Randers; 2 Clinical Research Unit, Randers Regional Hospital

Background
Impingement of the shoulder (SIS) is the most common shoulder disability. Still, surgical intervention is controversial, if symptoms do not improve by conservative means.

Recent studies have concluded that a structured physiotherapy program is equally as beneficial in the long-term compared to surgery. Though, few studies have investigated which patients benefit the most from surgery by assessing preoperatively the patients subjective shoulder status.

Our aim of this investigation is to report the short-term effect of an Arthroscopic Subacromial Decompression (ASD) in patients selected for surgery following the Danish National Guidelines of SIS treatment.
Furthermore, to investigate how patients benefitted from surgery in relation to gender, age and preoperative status.

Patients and Methods
Patients were included in an internet based database prospectively from November 2012 at the department of orthopedics Regional Hospital Randers, Denmark. Patients were asked to submit two questionnaires, The Oxford Shoulder Score (OSS) and EQ-5D-3L at baseline and 6 months post-operatively.

A total of 251 patients suffering from SIS underwent an ASD, as recommended by the Danish National Guidelines, were included in this study.

Subsequently, patients were divided into three groups according to the PRE-operative OSS (low-moderate-high).

Results
Adjusting for age, the low-group improved by 15 points. The moderate/high-group improved by 10.7 points (p=0.0001) and 2.8 (p=0.27), respectively.

Similarly results were seen by the EQ-5D, where the low-group improved substantially.

Conclusion
An ASD is a valid treatment for patients suffering from SIS, if conservative treatment has failed. By assessing the OSS and EQ-5D-3L preoperatively, a better selection can be made which patients would benefit the most from surgery.
3. Blood perfusion in human colon cancer

Ninna Voss Schmidt¹,²; Henrik Kold-Petersen¹; Henrik Elbrønd¹; Ebbe Bødtkjer³

¹Clinical Research Unit, Regional Hospital of Randers; ²Surgical Dept., Randers Regional Hospital; ³Dept.of Clinical Biochemistry, Aarhus University Hospital

Background
The blood supply to cancer tissue is typically insufficient to maintain normal nutrient and O2 levels and to eliminate waste products from cell metabolism. Multiple studies have investigated the mechanisms involved in tumor vascularization and the therapeutic potential of anti-angiogenic drugs for cancer treatment. In contrast, our understanding of the functional differences between tumor arteries and normal arteries is limited.

Method
Human biopsies of primary colon carcinomas and normal colon tissue were obtained from surgical operations at Regional Hospital Randers. Upon excision, the biopsies were immediately transferred to ice-cold physiological saline solution and brought to the Department of Biomedicine, Aarhus University. Small arteries were dissected from the fresh biopsies of colon cancer and matched normal colon and mounted in wire myographs. Contractile responses were tested in response to depolarization with elevated extracellular K+, noradrenaline, U46619 (thromboxane analogue), endothelin 1 (ET1) and arginine vasopressin (AVP).

Results
The vasocontractile responses to depolarization with elevated extracellular K+ and to AVP stimulation were similar in arteries from colon cancer and normal colon. In contrast, the vasocontractile responses to noradrenaline, ET1 and U46619 were reduced in tumor arteries compared to control arteries.

During AVP stimulation, vasomotion—characterized by rhythmic variations in tone—had similar frequency in cancer and control arteries, however, the cancer arteries had significantly smaller wave heights.

Conclusion
These results demonstrate that tumor blood vessels differ functionally from equivalent normal blood vessels. We propose that adaptations during carcinogenesis attenuate vasomotor responses in tumor arteries to enhance tumor perfusion. Pharmacological differences between normal and cancer arteries open the possibility for therapeutic interventions that can specifically modify tumor perfusion.
4. What are the needs and preferences for information about colorectal cancer screening among citizens with lower educational attainment?

Pia Kirkegaard; Berit Andersen, Mette Bach Larsen; Pernille Gabel; Gitte Lee Mortensen, Steen Lee Mortensen

Dept. of Public Health Programmes, Regional Hospital of Randers

Background
Citizens with lower educational attainment (LEA) are less likely to make informed decisions about health, compared to citizens with higher educational attainment. This may add to inequality in health and in use of healthcare services. Several studies suggest that paper-based and online decision aids (DAs) may support informed decision-making about individual health choices among vulnerable citizens. However, only few DAs have been developed about participation in colorectal cancer screening, and none of them have been developed in a Danish healthcare context. The aim of this study was to identify information needs and preferences for formats and content in a decision aid for citizens with lower educational attainment.

Methods
Four focus groups were conducted among Danish men and women aged 50-74 years with LEA.

A semi-structured interview guide was developed to explore participants' perceptions about colorectal cancer screening and wishes for a DA. The interviews were transcribed and analysed using an ethnographic approach.

Results
The participants appreciated information about the causes, symptoms, incidence and mortality of colorectal cancer compared to other common cancers. The majority preferred the information to be presented in a simple way with numbers and figures kept to a minimum. Receiving a screening kit to collect a sample of faeces along with the invitation letter was seen by the participants as a clear request from the health authorities to get screened. However, the overall message in the decision aid was perceived as ambiguous by the participants as it both recommended screening and seemed to disclaim responsibility for it.

Conclusion
The results are relevant to a discussion of the delicate balance between participants’ call for a clear recommendation, and the purpose of a decision aid to present options in a neutral and balanced way. This discussion is relevant beyond the group of citizens with LEA.
5. Cardiac ultrasound during cardiac arrest has the potential to detect pulmonary embolism as a reversible cause of cardiac arrest when compared to hypoxia and ventricular fibrillation

Rasmus Aagaard¹,²; Philip Caap⁴; Morten Thingemann Bøtker²; Nicolaj Christoffer Hansson³; Asger Granfeldt⁵; Bo Løfgren⁵

¹ Clinical Research Unit, Regional Hospital of Randers; ² Department of Anesthetics, Randers Regional Hospital; ³ Dept. of Cardiothoracic Surgery, Dept. of Cardiology, Aarhus University Hospital; ⁴ Regional Hospital West Jutland; ⁵ Medical Dept., Randers Regional Hospital

Introduction
Survival from cardiac arrest is unlikely unless a reversible cause is identified and treated. Guidelines state that ultrasound has the potential to identify reversible causes. Currently, ultrasound findings from patients with spontaneous circulation are extrapolated to cardiac arrest. While right ventricular (RV) dilation is normally associated with pulmonary embolism (PE), porcine studies have shown that it occurs in untreated ventricular fibrillation (VF) and severe hypoxia. No studies have investigated how causes of cardiac arrest affect RV size during resuscitation.

Hypothesis
The RV diameter is larger during resuscitation of cardiac arrest caused by PE when compared with hypoxia and VF.

Methods
Pigs were anesthetized and randomized to cardiac arrest induced by VF, hypoxia, or PE. Advanced life support (ALS) was preceded by 7 min of untreated arrest. Cardiac ultrasound images were obtained during cardiac arrest induction and ALS. Primary endpoint: RV diameter at 3rd rhythm analysis. Based on pilot studies 8 animals were needed in each group.

Results
RV diameter was comparable at baseline (mean (95%CI)), VF: 19.8 (18.0-21.5) mm, hypoxia: 19.8 (16.6-22.9) mm, and PE: 21.8 (19.2-24.3) mm. During cardiac arrest induction the RV diameter increased to 29.6 (27.3-31.9) mm in the hypoxia group and 38.0 (33.4-42.6) mm in the PE group (diff. to baseline and between groups, both p<0.01). Induction of VF caused an immediate increase in the RV diameter to 25.0 (21.2-28.8) mm (diff. to baseline p<0.01). At 3rd rhythm analysis, RV diameter was 32.4 (28.6-36.2) mm in the PE group, this was larger than both the hypoxia group at 23.3 (19.5-27.0) mm and the VF group at 24.9 (22.2-27.5) mm (diff. between groups p<0.01).

Conclusions
Cardiac arrest due to VF, hypoxia, and PE all caused an increase in RV diameter. During resuscitation, the RV was larger in PE compared to VF and hypoxia. Cardiac ultrasound thus has the potential to detect PE during resuscitation.
Abstracts – Poster Sessions

6. Undervisning i basal genoplivning med forskellig modstand i brystkassen på genoplivnings-dukken: Et randomiseret kontrolleret studie

André Anholm Jæger 5; Katrine Bjørnshave 1; Stinne Eika Rasmussen 1; Troels Mygind-Klausen 1; Kristian Krogh 1,2,4; Jonas Agerlund Povlsen 1,4; Bo Løfgren 1,3,4

1Research Center for Emergency Medicine, Aarhus University Hospital; 2Centre for Health Sciences, Aarhus University; 3Medical Dept., Regional Hospital of Randers; 4Institute of Clinical Medicine, Aarhus University; 5Clinical Research Unit, Regional Hospital of Randers

Baggrund

Vi ønsker at undersøge effekten af at øge hårdheden af brystkassen på den genoplivningsdukke, der anvendes på en række genoplivningskurser.

Hypotese
Det er vores hypotese, at træning på en hård frem for en mere eftergivelig brystkasse øger andelen af personer, der yder hjertemassage med en effektiv trykdybde umiddelbart efter kurset, samt tre måneder efter kursets afslutning.

Metode

Perspektivering
Hvis studiet finder, at lægpersoner yder mere effektiv genoplivning efter at have trænet på en dukke med hård brystkasse, kan det potentielt føre til en ændring af retningslinjerne på området og dermed mere effektiv undervisning. Øges kvaliteten af den genoplivning lægpersoner udfører efter et genoplivningskursus kan det potentielt øge overlevelsen ved hjertestop uden for hospitalaet.
7. The Significance of Implementation of N-Terminal B-Type Natriuretic Peptide for Requisition in Primary Care

Anni Germann Najbjerg 2,4; Lærke Valsøe Bruhn 1; Annelli Sandbæk 3; Nete Hornung 2

1 Emergency Dept., Regional Hospital of Randers; 2 Clinical Biochemical Dept., Regional Hospital of Randers; 3 Institute of Public Health, Aarhus University; 4 Clinical Research Unit, Regional Hospital of Randers

Background

Chronic heart failure (CHF) is a severe condition with mortality rates comparable with malignant diseases. However, it can be difficult to diagnose patients with CHF in primary care, since they present with non-specific symptoms such as fatigue and dyspnea. Echocardiography, which is performed in the hospital, is the current golden standard.

The biomarker NT-proBNP is well described and thoroughly investigated. It is secreted as an inactive by-product from the active hormone BNP by the cardiac myocytes in response to ventricular distension seen in conditions with cardiac stress such as heart failure. Several studies show that NT-proBNP has a high negative predictive value (up to 99%) in CHF, which makes it particularly useful as a rule out test.

This study aims to investigate 1) the outcome of offering NT-proBNP for requisition in primary care by the number of identified heart failure patients in a cluster-randomized trial and 2) to which extent the general practitioners (GPs) adopt the analysis.

Methods

The study is conducted as a cluster-randomized trial. 34 GPs (49%) from the coverage area of Randers Regional Hospital are randomized to the intervention group, which is offered NT-proBNP for requisition. 35 GPs (51%) are randomized to the routine group, which cannot request the analysis.

Data is drawn from the laboratory information system, the BI portal and the electronic patient record.

Results

The results are expected to be available at the beginning of 2016. We measure the number of requested analyses over/under the cutoff value, amount of echocardiography in the pre-arranged care pathway for heart diseases, time to echocardiography and proportion of patients diagnosed with CHF in both the intervention and the routine group.

Furthermore, we perform a semi-structured interview with selected GPs concerning their use of and experiences with the analysis when diagnosing CHF in primary care.
8. Prevention of Fractures in Children with Cerebral Palsy
Jakob Bie Granild-Jensen¹, Bjarne Møller Madsen²

¹ Department of Pediatrics, Regional Hospital of Randers; ² Sector for Pediatric Orthopedics, Aarhus University Hospital

Objectives and perspectives
The desire is to test preventive medicine against fractures and pain in children with severe cerebral palsy. Furthermore, to determine the incidence of fractures in order to document the extent of the problem. The outcome of the project will improve treatment and quality of life for children with cerebral palsy. Besides, there is a public health value as we expect that health care spending will be significantly reduced.

Background
The incidence of fractures in the 2000-2500 Danish children with cerebral palsy is unknown. In a Swedish study fracture rates of up to 4% annually in children with severe cerebral palsy were found. Fractures result in pain, medical examinations and treatment. In Denmark the recommended fracture prevention is calcium and vitamin D supplements, however studies indicate that bisphosphonates can increase bone density more efficiently. Zoledronate is a bisphosphonate which is administered twice per year, but there is insufficient evidence of its efficacy in children with cerebral palsy, which prevents routine use.

Method
On basis of the above we have planned two studies in a PhD program:

1) We want to map the incidence of fractures in children with cerebral palsy in Denmark compared to healthy children. To accomplish this the National Cerebral Palsy Register and the National Patient Register will be used.

2) We want to contribute to the prevention of bone fractures by examining the bone-strengthening and pain-relieving effect of zoledronate in a randomized, placebo-controlled, double-blind trials. 52 children with cerebral palsy will be treated for 1 year. The effect of treatment will be determined with standard bone density measurements, DXA, and a validated questionnaire designed for children with cerebral palsy, CPCHILD.

The project has been planned, approved and is currently seeking funding. The project manager is currently employed at the Department of Paediatrics RRA, from where the project can originate.
9. GATA3 Expression in Liver Metastases

Dorte Kjær; Stine Horskær Madsen; Jens Johannes Christiansen

Institute of Pathology, Regional Hospital of Randers

Background
Our aim is to evaluate GATA3 expression in liver metastases.

GATA is a family of 6 transcription factors. From different studies GATA3 is found to be expressed in 70-100% of mamma carcinoma (ductal and lobular), and in 70-100% of urothelial carcinoma. GATA3 as an immunohistochemical stain is more sensitive than other used markers of mamma carcinoma (estrogen, GCDFP-15, mammaglobin) and urothelial carcinoma (uroplakin III), and has same or higher specificity in mamma carcinoma and decreased specificity in urothelial carcinoma.

Methods
The material was liver biopsies from 67 patients. It was stained with GATA3 (monoclonal mouseantistof, clone L50-823). To be included the tumor tissue had to have at least 20 tumor cells, four biopsies were excluded. A senior and a residential doctor evaluated the slides. We assumed that the exact diagnoses of the biopsies were the diagnoses the patients were treated after.

Results
The material includes biopsies from 30 men, and 33 women, 41-91 years of age, mean age 70.8 years. Fiftyfive of these are adenocarcinomas. The livermetastases are positive in GATA3 in 100% of mammacarcinomas, 67% of gallbladder tumors, 58% of pancreas tumors, and 36% of lung tumors. Among other types of tumors GATA3 are mostly negative.

Discussion
This is the first study of the expression of GATA3 in livermetastases. It is a small study, and we find that GATA3 is non-specific. Further and larger studies are needed to make firm conclusions.

Conclusion
It may have a diagnostic value to add the GATA3 to the immunohistochemical panel examining the livermetastases, especially when the histomorphological findings are taken into considerations, too.
10. The Incidence of Premature Thelarche is increasing in the Central Region of Denmark: Challenges in differentiating Girls less than 7 Years of age with Premature Thelarche from Girls with Precocious Puberty in Real-life Practice

Esben Thyssen Vestergaard 1; Mia Elbek Sømod 2; Kurt Kristensen 2; Niels Holtum Birkebæk 2

1 Department of Pediatrics., Regional Hospital of Randers, 2 Department of Pediatrics., Aarhus University Hospital

Aim
To I) determine the incidence of premature thelarche (PT) in girls aged 0.5-7 years in the Central Region of Denmark, II) investigate if this incidence is increasing, and III) describe challenges of distinguishing PT from early stages of precocious puberty (PP) in the age group 0.5-7 years using conventional variables for diagnosing PP.

Methods
191 girls aged 0.5-7 years were included. Diagnoses were validated and the girls were categorized to the groups PP (n=27) and PT (n=164). Anthropometry, Tanner stages, ethnicity, bone age, and biochemistry, were recorded. Conventional variables for diagnosing PP were compared between the groups at time of referral to identify parameters predictive for the diagnosis.

Results
The referral rate of PT increased from 1998-2013. Girls with PT and PP differed with regards to age at referral, body mass index standard deviation scores (BMISDS), ethnicity, bone age advancement, basal luteinizing hormone (LH), gonadotropin releasing hormone (GnRH) stimulated LH and follicle stimulating hormone (FSH), basal and stimulated LH/FSH ratio, and sex-hormone binding globulin (SHBG). Apart from SHBG there was considerable overlap of the variables between the PT and the PP groups.

Conclusion
I. the incidence of PT appears to increase. II. SHBG was the variable which best discriminated PT from PP. III. stimulated LH in 1-3 years old girls with PT is similar to stimulated LH in 5-7 years old girls with PP. Age, BMISDS, ethnicity, bone age, stimulated gonadotropins and LH/FSH and SHBG are all useful variables for differentiating PP from PT. However normative data for stimulated LH and FSH in the age group 0.5-7 years are warranted.
11. Immunohistochemical Evaluation of Neuroprotection by Remote Ischemic Postconditioning in Newborns - a randomized Study of Remote Ischemic Postconditioning in a Piglet Model of Hypoxic-Ischemic Encephalopathy

**Hannah Bregården Andersen**\(^1,2,3\); **Tine Brink Henriksen**\(^2\); **Kasper Kyng**\(^3\); **Ida Elisabeth Holm**\(^2\)

\(^1\) Clinical Research Unit, Regional Hospital of Randers; \(^2\) Institute of Pathology, Regional Hospital of Randers; \(^3\) Department of Pediatrics, Aarhus University Hospital

**Background**

Hypoxic ischemic encephalopathy (HIE) after perinatal asphyxia is a major course of mortality and morbidity in infants. Post-ischemic hypothermia is the only well documented intervention for HIE; however, 40%-50% of the infants treated with hypothermia still die or suffer significant neurological disability.

Remote ischemic postconditioning (RPostC) is a novel therapy which has been shown to protect the neonatal and adult brain in rodent models of stroke. RPostC is the application of non-lethal controlled local ischemia in one or multiple limbs after an initial ischemic insult. The protective mechanism is not fully understood and needs further elucidation. We investigated whether RPostC could reduce brain injury in a piglet model of HIE.

**Method**

Fifty four newborn piglets were subjected to general hypoxia and randomized into RPostC and controls. The hypoxia was maintained for 45 minutes and titrated to deliver the highest possible fraction of oxygen resulting in depressed aEEG. The intervention group was treated with four conditioning cycles of 5 minutes ischemia and 5 minutes reperfusion.

**Results**

The RPostC treatment was previously evaluated by HE-staining of the brain tissue, but no significant differences in neuropathological scores were observed between the piglets treated with RPostC and controls. There are many possible explanations to this; the most obvious being that the neuropathological scoring system is rather coarse. In order to visualize more subtle differences between the groups, we performed supplementary immunohistochemical studies of seven regions of interest. We studied the expression of Bcl-2, Caspase-3, AQP4, and VEGF to elucidate the treatment effect on apoptosis pathways, brain edema and angiogenesis. Here we present the preliminary data.
12. Livstruende blødning under dabigatranbehandling som følge af akut opstået nyreinsufficiens

Henrik Bjørnsgaard Madsen ¹; Sophie Constantin Lütken ²; Jonas Agerlund Povlsen ²; Ass. Prof. Bo Løfgren ¹ ²

¹ Medical Department, Regional Hospital of Randers; ² Heart Diseases, Aarhus University Hospital

Background
Many commonly used drugs, e.g. new oral anticoagulants, digoxin, ACE-inhibitors, antibiotics, are eliminated by the kidneys. Lack of medication reconciliation can lead to serious adverse events in case of deteriorating organ function.

Methods
We report a case where a 64-year-old woman treated with dabigatran developed life-threatening bleeding due to lack of dose adjustment following identification of acute renal failure.

Conclusions
The use of medication reconciliation should be performed on a daily basis and special attention should be exercised in case of reduced kidney function.
13. Tumours of the Colon - are they always cancers?: Necrotic Amoeboma in a Healthy Scandinavian with no Travel Anamnesis

J.J. Christiansen; J. N. Henriksen

Institute of Pathology, Regional Hospital of Randers

Objective
We present a case of an intestinal tumour in a 58 years old Danish male, who was admitted to hospital with acute abdominal pain. He had no recent travelling history. Laporoscopy showed a normal appendix. However, a tumour in the ascending colon was found and a right hemicolecctomy was performed. Gross examination showed ulcerations of the mucosa and tumour-like lesion in the caecal area. Further pathological examination showed deep ulcerations with undermined edges and massive inflammation and necrosis. Periodic acid Schiff (PAS)-positive amoebae trophozoites were identified and the patient was diagnosed with and treated for amoebiasis.

Conclusion
Clinically suspected tumours of the GI-tract can in seldom instances reveal infectious disease when examined pathologically. Infections with entamoeba histolytica are very rare in otherwise healthy persons in our part of the world. Patients in developed countries working with sewage should be considered at risk of developing amoebiasis.
14. First Trimester induced Abortions provided by Nurses at the Abortion Clinic, Randers

Janne Redder¹; Sidsel Boie¹; Caroline Juhl²; Isil Pinar Bor¹

¹ Dept. of Obstetrics and Gynecology, Regional Hospital of Randers; ² Dept. of Obstetrics and Gynecology, Regional Hospital Central Jutland

Background
The annual number of legal induced first trimester abortions in Denmark is around 16.000. According to Danish National Register of Legally Induced Abortion, about 58% of them are medically induced abortions. To increase women’s access to safe abortion procedures the World Health Organization recommends that trained midwives or nurses can perform an abortion. Since 2013 at the Abortion Clinic, Randers, which is the second largest abortion clinic in Denmark, nurses are examining all women seeking first trimester abortion.

The aim of this study was to determine whether first trimester medical abortions provided by nurses have the same efficacy rate and the same safety as those provided by gynaecologists.

Methods
The data were collected from women undergoing medical abortions at home up to 62 days after the last menstrual period, provided at the Abortion Clinic, Randers from May to December 2013.

The examination was performed by a nurse, included ultrasound to assess gestational age and a contraceptive counselling. A dose of 200 mg oral mifepristone followed by 800 mg of misoprostol were used for the medical abortion. Follow-up in all cases was by serum human chorionic gonadotropin with a test at the day of the first visit and again one week later.

Results
The total of 629 women underwent first trimester-induced abortion at the Abortion Clinic, Randers during the study period. Of them, 424 (69%) women preferred medical abortion. Efficacy of pregnancy termination was 95% for medication abortions. On-going pregnancy was found in one woman (0.2%).

Conclusion
First trimester medical abortion provided by nurses is a reliable and safe method, which could probably have a potential economic impact on the health-care system.

A high number of women choose medical induced abortion compared to national reference standard, which could be explained by appropriate and efficient counselling given by nurses dedicated to legal abortions.
15. Residual β-cell function in Children after 3-6 Years of Diabetes Mellitus - Impact on Glycemic Control, Incidence of Severe Hypoglycemia and Insulin Requirements.

Jesper Sand Sørensen, K. Kristensen, B.K. Møller, F. Pociot, N. H. Birkebæk

Department of Pediatrics, Regional Hospital of Randers

Background
The phenotype of diabetes mellitus (DM) in children is not well-characterized. Generally, it is believed that β-cell function is exhausted after 1-2 years of Type1 DM. However, after 3 years with diabetes, some children have well-controlled and easy regulated diabetes, which may partly be due to residual β-cell function.

Objective
To determine prevalence of residual β-cell function (RBF) in children after 3-6 years of DM. And to examine the association between RBF and glycaemic control (HbA1c), incidence of severe hypoglycaemia and insulin requirements (daily insulin dosage per kg bodyweight).

Methods
A total of 342 children (173 boys), aged 4–18 years with DM for 3-6 years were included. RBF was assessed by testing meal-stimulated C-peptide (MCP). Information on current HbA1c, incidence of severe hypoglycaemia within the last year and daily insulin requirements was retrieved from the medical records.

Results
Of the 342 children 27% had a MCP > 0.04 nmol/l, and 8% even had a MCP > 0.2 nmol/l. Comparing the children with and without RBF (MCP of more or less than 0.04 nmol/l respectively), the group with RBF had a significantly lower HbA1c (mean ± SE, 8.49±0.08% [69.3±0.9 mmol/mol] vs. 7.92±0.13% [63.1±1.4 mmol/mol]; P<0.01) and a significantly lower incidence of severe hypoglycaemia 7.6% vs. 17.6% (odds ratio, 2.59; 95% CI, 1.10–7.08; P<0.03). Insulin requirements were found to be significantly lower in patients with RBF > 0.2 nmol/L (U/kg/day ± SE: 1.07±0.02 vs. 0.93±0.07; P<0.04).

Conclusions
The study showed a considerable phenotypical diversity with respect to RBF in children after 3-6 years of DM. Children with RBF were found to have a significantly better diabetes regulation, a lower risk of hypoglycaemia and have lower insulin requirements compared to children without RBF.

Future studies will investigate other possible effects (metabolic, longterm etc.) of and factors (immunological, genetic etc.) possibly associated with residual β-cell function.
16. Stimulation of the Autonomic Nervous System in Colorectal Surgery by Perioperative Nutrition - A Multicenter Prospective Double Blinded Randomized Controlled Trial

Jonas Amstrup Funder; T. Sommer; Prof. K. Krogh; S. Laurberg

Dept. of Surgery, Regional Hospital of Randers; Dept. of Surgery, Aarhus University Hospital; Dept. of Hepato and Gastroenterology, Aarhus University Hospital

Background

Morbidity and mortality following colorectal surgery are greatly influenced by postoperative ileus and anastomotic leakage. Several experimental studies have shown significantly lower complication rate after administering enriched enteral nutrition shortly before, during and early after colorectal surgery. The nutrition reduces inflammation by stimulation of the autonomic nervous system and thereby reducing postoperative ileus and anastomotic leakage. The main objective of this study is to investigate the effects of perioperative nutrition on postoperative ileus and anastomotic leakage in patients undergoing colorectal surgery in a multicentre prospective randomized double-blinded controlled trial commencing in November 2015.

Methods

Patients undergoing elective segmental colon resection with a primary anastomosis for colonic cancer >18 years are included into this study. All patients will receive a self-migrating nasojejunal tube one day before surgery. Patients in the intervention group receive enriched enteral nutrition perioperatively until oral intake is started. Patients in the control group do not receive nutrition and get a standard preoperative fast until standard oral intake is commenced. The inflammatory response will be quantified in blood and peritoneal fluid by Enzyme Linked Immunosorbent Assay (ELISA) and Polymerase Chain Reaction (PCR). Clinical parameters including postoperative ileus and anastomotic leakage are prospectively registered in a database. Other parameters include gastrointestinal motility measured by a portable 3D electromagnetic system. Long-term outcome parameters such as local recurrence, overall and cancer-specific survival will also be registered.

Results

Data sampling will commence in November 2015.

Conclusion

This study is expected to clarify the potential of enriched enteral nutrition for treatment of ileus and anastomotic leakage potentially reducing postoperative morbidity and mortality.
Introduction
Over the last decades women in the western countries have postponed having the first child, which may have reproductive consequences in terms of unexpected infertility and poorer outcome following assisted reproduction. These potential consequences have led to an increase interest in markers of the ovarian reserve. Furthermore studies have shown a potential decrease in ovarian reserve parameters following surgery.

We aimed to investigate if such potential damage would be evident following minimal invasive pelvic surgery and if there was a difference according to the different types of surgery performed.

Materials and Methods
A prospective observational pilot study with total of 34 women enrolled from the Department of Gynaecology and Obstetrics, were included for analysis. Of these women 23 underwent laparoscopic sterilisation (LS) and 11 underwent transcervical hysteroscopic endometrial/polyp/fibroma resection (TCR). The women had blood samples collected before surgery and at 1 week, 1 month, 3 and 6 months postoperatively, to assess the levels of Anti-Müllerian Hormone (AMH). Furthermore a vaginal ultrasonography was performed before surgery and 3 and 6 months postoperatively to determine the number of antral follicles (AFC) and the ovarian volume (OV).

Results
In the TCR group AMH decreased significantly by 22% from baseline to 3 and 6 months postoperatively (p=0.05). There were no further significant changes between 3 to 6 months postoperatively.

In the LS group there were no significant changes in AMH. In the TCR group the ultrasound parameters showed a non-significant tendency to a decrease of AFC and OV, but no changes were found in the LS group.

Conclusion
Transcervical resection of the endometrium was found to reduce ovarian reserve as measured by Anti-Müllerian Hormone, Antral Follicle Count and Ovarian Volume whereas laparoscopic sterilization did not.
18. RCT: Niche Development with closure of Cesarean Uterotomy by Modified or conventional two-layer technique (NICUM study).

Julie Glavind¹, Isil Pinar Bor ¹, Niels Uldbjerg², Lone Hvidman²

¹Dept. of Obstetrics and Gynecology, Regional Hospital of Randers ; ²Dept. of Obstetrics and Gynecology, Aarhus University Hospital

Background

More than 18 million caesarean deliveries (CD) are performed each year worldwide. Nevertheless, evidence is sparse on the optimal way to perform the different steps of this surgical procedure. The aim of our study is to compare two different uterotomy surgical techniques in order to improve wound healing of the uterine scar and avoid menstrual cycle disturbances or scar-related complications in the following pregnancy.

Methods

A randomized clinical trial to compare two different surgical techniques for closing of the uterine incision (uterotomy) following elective CD. Singleton pregnant women with a planned CD at the and with no previous CD are eligible for participation. Randomization is performed with a computerized system using a 1:1 allocation and with stratification on labor onset. While the surgeons are not blinded to randomization arm, the women and physicians performing the ultrasonography are.

The primary outcome is the presence of a so-called niche (defect in the uterine wall) at the level of the CD scar as visualized by vaginal ultrasonography 6 months post partum. Secondary outcomes are the size of the niche and thickness of the uterine wall (6 months), menstrual disturbances (15 months’ questionnaire), and scar-related adverse outcomes (i.e. placenta previa, uterine rupture) in the following pregnancy. Our sample size is 230 women, and we expect to continue the inclusion period until the end of 2018.

Results

The study is on-going. Since March 2015 thirty-five women have been randomised and included in the study. One women has completed follow-up.

Conclusions

Evidence is sparse on the optimal CD surgical technique. Even minor improvements in the surgical technique used for CD could have major impact on maternal health due to the large number of CDs performed worldwide. We expect from our trial to qualify the discussion of how to perform uterotomy closure to avoid possible future niche-related complications.
19. Effects of hyperoxia versus normoxia on myocardial injury following cardioversion – a randomized clinical study

Kasper Glerup Lauridsen 1,2; Anders Sjørslev Schmidt 2; Kasper Adelborg 2; Nete Hornung 3; Simon Munkesø Jepsen; Prof. Charles D. Deakin 4; Associate Prof. Hans von Hofe Rickers 5; Bo Løfgren 2

1 Clinical Research Unit, Regional Hospital of Randers, 2 Dept. of Medicine, Regional Hospital of Randers; 3 Research Center for Emergency Medicine, Aarhus University; 4 Clinical Biochemistry, 5 Department of Anesthetics, University Hospital Southampton, Southampton, UK; 6 Research Center for Emergency Medicine, Aarhus University

Background
Oxygen is often administrated before, during and after direct current cardioversion. Hyperoxia may increase myocardial injury following myocardial infarction. However, it is unknown if hyperoxia exacerbates myocardial injury following cardioversion. This study aimed to compare the impact of treatment with oxygen or room air on myocardial injury during cardioversion of atrial fibrillation or -flutter. Methods: This was a prospective, randomized controlled trial. Patients referred to elective cardioversion of atrial fibrillation and -flutter were eligible for inclusion. Patients were randomized to 1) receive room air for the entire procedure or 2) 100% oxygen for 3 minutes prior to and after cardioversion until the patient was breathing sufficiently and then for a period of 30 minutes (3 L/min nasally) post-procedure. The primary endpoint was myocardial injury evaluated by Troponin I (Hs-cTnI) and Troponin T (Hs-cTnT). Blood samples were obtained 2 hours before and 4 hours after cardioversion.

Results
A total of 65 patients were randomized to oxygen and 59 patients to room air. There was no statistical difference in sex and mean age between groups (71% male, age 66.9 years for oxygen and 80% male, age 65.5 years for room air). Patients randomized to oxygen reached a PaO2 of (mean ±SD) 57±10 kPa versus 12±2 kPa for room air. Mean hs-cTnI difference before and after cardioversion was 0.1 (95% CI: -0.5 - 0.5) ng/L for the oxygen group and -0.3 (95% CI: -1.1 – 0.4) ng/L for the room air group. There was a more pronounced increase in hs-cTnI for hyperoxia patients, ratio 1.22 (95% C.I. 1.03-1.45) (p=0.02) as well as for hs-cTnT, ratio 1.05 (95% C.I. 1.00-1.09) (p=0.05) compared with normoxia patients.

Conclusion
Treatment with oxygen during cardioversion of atrial fibrillation or -flutter results in a minimal increase in hs-cTnI compared with room air. The increase in hs-cTnI is within the uncertainty of measurement and without clinical relevance.
20. Physicians On Cardiac Arrest Teams Are Most Often Non-specialists With Limited Clinical Experience

Kasper Glerup Lauridsen\textsuperscript{1,2}; Philip Caap, Rasmus Aagaard\textsuperscript{1,3}; Bo Løfgren\textsuperscript{2}

\textsuperscript{1} Clinical Research Unit, Regional Hospital of Randers, \textsuperscript{2} Dept. of Medicine, \textsuperscript{3} Dept. of Anesthetics, Regional Hospital of Randers

\textbf{Background}

The quality of in-hospital resuscitation is poor and may be affected by clinical experience and cardiopulmonary resuscitation (CPR) training. This study aimed to investigate the clinical experience, self-perceived skills, CPR training, and knowledge of guidelines on when to abandon resuscitation among physicians on cardiac arrest teams.

\textbf{Methods}

This is a nationwide cross-sectional study in Denmark. Telephone interviews were performed with physicians on cardiac arrest teams in public somatic hospitals. Telephone interviews were performed using a structured questionnaire.

\textbf{Results}

In total, 93 physicians (53\% male) from 45 hospitals participated. Median age was 34 interquartile range (30-39) years. Participants were medical students working as locum physicians (5\%), residents and fellows (79\%), chief physicians (16\%), and median postgraduate clinical experience was 48 (19-87) months. Most physicians (92\%) felt confident in treating a cardiac arrest, while less felt confident in performing intubation (41\%) and focused cardiac ultrasound (39\%) during cardiac arrest. Median time since last CPR training was 4 months (2-10) and 48\% had attended a European Resuscitation Council (ERC) Advanced Life Support (ALS) course. The majority (84\%) felt confident in terminating resuscitation however only 9\% were able to state ERC guidelines on when to abandon resuscitation.

\textbf{Conclusion}

Physicians on Danish cardiac arrest teams are most often non-specialists with four or less years of clinical experience. Several physicians are not able to perform important clinical skills during resuscitation. Less than half of physicians have attended an ERC ALS course. Only very few physicians know the ERC guidelines on when to abandon resuscitation.

Larissa Callesen, Isil Pinar Bor, Julie Glavind

Dept. of Obstetrics and Gynecology, Denmark

Introduction
Post-date pregnancy remains the most frequent indication of induction of labour (IOL) due to increased risk of maternal and perinatal complications.

According to the Danish guidelines, IOL at 41+3 weeks of gestation was implemented as a standard procedure at the Department of Obstetrics and Gynaecology, in 2012 instead of previous procedure IOL at 42 weeks of gestation.

The purpose of this project is to evaluate the success rate of IOL, defined as a vaginal delivery within 48 hours of IOL at 41+3 week of gestation and to determine the factors, associated with failed IOL.

Methods
Retrospective study. All women, who underwent outpatient IOL at 41+3 weeks of gestation due to post-date pregnancy from January to December 2012, were included.

The data were retrieved from the Electronic Patient Records. The primary outcome was the vaginal delivery within 48 hours of IOL. Secondary outcomes were maternal and neonatal complications.

Results
A total of 252 (12.6%) women underwent IOL due to post-date pregnancy. Of these, 202 women were included in the study. The overall vaginal delivery rate was 81%. Vaginal deliveries within 48 hours of IOL were obtained in 141 women (70%).

Risk of failed IOL was significant higher among the nulliparous and women with BMI ≥ 30. Women with unfavourable cervix were less likely to achieve vaginal delivery within 48 hours. Previous caesarean section was strongly correlated to induction failure.

Conclusions
Induction of low-risk pregnancies at 41+3 weeks of gestation results in a high rate of vaginal delivery. Our results confirm that poor cervical dilatation and increased cervical length, high BMI, nulliparity and previous caesarean section are predictive factors for increased risk of induction failure.

There is still need to improve the prediction of failed IOL because of maternal discomfort due to long labour and increased workload for the medical staff and hospitalization.
22. Preeclampsia and arterial stiffness – a 10-year follow-up of previously preeclamptic women.

*Martin Christensen* ¹,²; *C.S. Kronborg* ³; *U. B. Knudsen* ⁴

¹ Clinical Research Unit, Regional Hospital of Randers; ² Dept. of Medicine, Aarhus University; ³ Dept. of Oncology, Aarhus University Hospital; ⁴ Dept. of Obstetrics and Gynaecology, Aarhus University Hospital

**Background**
Several studies show an association between preeclampsia and premature development of cardiovascular disease (CVD). The association is incompletely understood, but probably includes pre-existing common risk factors. However, preeclampsia may also induce permanent vascular and metabolic alterations that could affect systemic arterial elastic properties. In this regard, arterial stiffening could represent a link between the systemic effects of preeclampsia and CVD risk.

**Objective**
We aimed to evaluate the effect of preeclampsia on arterial stiffness markers in women with a history of preeclampsia.

**Methods**
A 10-year follow-up study comparing 21 exposed women (previous pre-eclamptic pregnancies) and 21 unexposed women (previous normotensive pregnancies) matched on age and time since delivery. The two groups were compared with respect to markers of arterial stiffness and traditional CVD risk factors.

**Results**
Our preliminary analysis showed a higher aortic pulse wave velocity in women with a history of preeclampsia than in unexposed women (8.04 ± 1.47 vs. 7.29 ± 0.87 m/s, respectively, P=0.057). However, the difference fell marginally short of statistical significance. Waist-Hip ratio (P<0.05) and percentage using anti-hypertensive drugs (P=0.02) were significantly higher in previously preeclamptic women.

**Conclusion**
Women with preeclamptic pregnancies 10 years earlier tended to have higher pulse wave velocity than women with previous normotensive pregnancies. To the best of our knowledge, this preliminary analysis represents the first comparative assessment of arterial stiffness 10 years after pregnancies complicated by preeclampsia.
Colorectal cancer (CRC) is the third most common cancer globally. Despite advances in screening, diagnosis and treatment it is the fourth-leading cause of death by cancer. CRC is a highly heterogeneous disease, therefore choice of the most effective treatment is challenging. Unpublished data from Bramsen et al. suggest that CRC can be divided into five molecular subtypes differing in their prognosis and response to therapy: 1) Normal-like, 2) EMT (epithelial to mesenchymal transition), 3) dMMR (mismatch-repair deficient), 4) GPCR (G protein-coupled receptor) and 5) chromosomal instable (CIN). These subtypes were identified by genome-wide RNA-sequencing and methylome analysis and are consistent with reports from other groups.

This PhD project will be an extension of work of Bramsen et al. and will be done in collaboration with Department of Molecular Medicine (MOMA), Skejby and Department of Clinical Medicine, Department of Pathology, Aarhus University Hospital. According to the molecular classification by Bramsen et al. I propose following aims of this study:

1) evaluate histological profile of these five CRC subclasses in a discovery cohort in term of clinico-pathological features and prognosis

2) validate the histological profiles in a novel cohort

3) establish a cost effective approach to use molecular subtypes of CRC in clinical settings for optimal treatment and prognosis

This study will refine molecular classification of CRC by combining gene expression profiles with histological and clinico-pathological parameters. Recognition of these subtypes might be valuable to establish a novel clinical testing and classification of CRC patients leading to tailored treatments for CRC. We believe this study will provide a molecular subtype classification that can be used in future preclinical, clinical and translational studies of prognostic and predictive biomarkers of CRC.
The brain collection at Risskov Hospital includes more than 9000 whole brains collected and studied in 1945-1982. About 5500 of the patients were diagnosed with dementia. Approximately half of these had Alzheimer’s disease (AD), a smaller percentage was diagnosed with Mb. Pick and the rest had vascular dementia. Past neuropathological diagnostics of dementia was based on silver stained tissue which enabled visualization of plaques and tangles characteristic for AD and Pick bodies for Mb. Pick that was a common clinical term for all non-AD dementia (frontotemporal dementia (FTD)) forms. Today, Mb. Pick is one of many disease entities among the larger group of frontotemporal lobar degeneration (FTLD) which is the neuropathological term for the brain changes in patients with FTD.

FTLD is a pathologically and genetically heterogeneous group of disorders characterized by degeneration of the frontal and temporal lobes. About 40% of FTD cases are hereditary; study of the disease genes has lead to identification of specific proteins involved in the pathogenesis of FTLD subtypes. These proteins can be visualized using immunohistochemical methods on paraffin sections from brain tissue. FTLD is currently divided on the basis of the deposited abnormal intracellular protein aggregates into: Tauopathies (FTLD-Tau), Tau negative FTLDs (FTLD-TDP, FTLD-FUS, FTLD-UPS) and a smaller group with unknown protein.

We identified 69 patients with a clinical diagnosis of Mb. Pick/FTD from the brain collection. The corresponding neuropathological diagnosis was determined by immunohistochemistry and fell into the following groups: FTLD-Tau (27 patients), AD (11 patients), and Tau negative FTLDs (31 patients).
25. What happens when women in a country with organised cervical cancer screening are not invited as recommended?

Mette Bach Larsen¹; Stine Lyngborg Heslop¹; Anita Ulvsgaard Sørensen¹; Hans Svanholm²; Berit Andersen¹

¹ Department of Public Health Programs, Regional Hospital of Randers; ² Institute of Pathology, Regional Hospital of Randers

Introduction

In 2013 it was realised that more than 19,000 women in Central Denmark Region erroneously had been unsubscribed from the Danish National Cervical Cancer Screening Programme due to an administrative error. As a consequence, a number of initiatives were launched for the affected women. Women still in the screening age (23-64) were reassigned to the programme; women above the screening age were given the choice to undergo screening, and women registered with a diagnosis of cervical cancer were notified about the opportunity to report the injury to the Danish Patient Compensation Association (DPCA). A new law was established to secure the possibility for patients to report their injury to the DPCA even though the statutory five year limitation was extended. The aim of this study was to describe the outcomes of re-establishing invitations in terms of participation rate and screening results. Furthermore, we reported on patient injuries and adjudications of compensations to the affected women, and describe media coverage of the error.

Methods

This was an observational study of the women affected by the error. The process of identifying the administrative error and the initiatives launched for the affected women was described. The results of re-establishing the programme was based on registry data.

Results

At the symposium, results in terms of outcome of cervical cytologies of women in the screening age, outcome of HPV testing of women above the screening age, patient injuries and adjudications of compensations to women affected by the error and media coverage will be presented.

Discussion

Inherent in this “natural experiment” lies a learning potential regarding systematic screening programmes which must be described. Furthermore, a significant potential for assessing the effect of the screening programme will be utilised in a forthcoming study assessing differences in screening patterns between invited women and those affected by this error.
26. Screening mammography may be a rapid and effective investigation of mammacancer in asymptomatic women

Mette Bach Larsen¹, Vivian Langagergaard², Heidi Larsson³, Ellen Mikkelsen³, Berit S. Andersen¹

¹Department of Public Health Programs, ²Center for Quality Development, Central Denmark Region, ³Department of Clinical Epidemiology

Introduction

The Danish breast cancer screening programme was initiated in 2008. Outside the screening programme, general practitioners may refer women to a clinical mammography if there are symptoms of or general concerns about breast cancer. A clinical mammography is performed by a medical doctor and in addition to the mammography; it consists of a clinical examination and possibly a biopsy. In the Central Denmark Region it was decided that asymptomatic women could be referred to a screening mammography if the referring doctor assessed that it was sufficient as an initial examination. The aim of this study was to describe the incidence of breast cancer and ductal carcinoma in situ (DCIS) within two years after a screening mammography in women offered a screening mammography instead of a clinical mammography.

Methods

The study was an observational study of 797 women referred to a screening mammography from 31 July 2008 to 27 November 2008. The included women were identified in an administrative database, and data on date and result of screening mammography and diagnoses of breast cancer and DCIS were collected from the Danish Mammography Quality Database. The proportion of women with an abnormal screening result and the proportion of women with cancer/DCIS were calculated with 95% confidence intervals (CI). Finally, the proportion of women diagnosed with breast cancer within two years after a normal mammography was calculated with 95% CI.

Results

The mammography was abnormal for 6.3% of the women, 0.1% had DCIS and 1.0% was diagnosed with breast cancer. 1.0% of women with a normal mammography were diagnosed with breast cancer within two years of the mammography.

Discussion

In the triage of women referred to a clinical mammography, asymptomatic women are last in line and may experience substantial waiting time. A more widespread use of screening mammography may contribute to a more rapid and effective way to detect breast cancer in asymptomatic women.
27. Validation of The Fluid Intake Appraisal Inventory; a self-efficacy scale for managing fluid allowance among patients on haemodialysis in Denmark

Mette Spliid Ludvigsen¹, Jytte Pahus², Magnus Lindberg³

¹Clinical Research Unit, Regional Hospital of Randers, ²VIA University College, Campus Silkeborg, ³Department of Publick Health and Caring Sciences, Uppsala University, Uppsala, Sweden

Background
Many haemodialysis patients have problems limiting their fluid intake, and this might be influenced by their self-efficacy (SE). Thus interventions to improve patients’ SE might lead to an improvement in their managing of fluid allowance. The Fluid Intake Appraisal Inventory (FIAI) evaluates patients’ SE with regard to fluid intake. FIAI was developed in Sweden and can be used as a screening instrument or as an evaluation tool.

Objectives
The aim of this study was to translate and validate the FIAI for use in Denmark.

Methods
Following the steps of forward and backward translation the Swedish version of FIAI was translated into Danish. Conceptual and semantic equivalence were established by the translators in the forward and reverse translation procedure. Experiential and idiomatic equivalence was discussed by the researchers. Four haemodialysis patients completed the first version of the FIAI and were asked to evaluate the appropriateness and were asked to make suggestions for clarity. The second part of the assessment relates to construct validity and internal consistency of the revised scale. FIAI has been tested in a survey among haemodialysis patients in Danish dialysis centres during May and June 2015.

Results
Four translators and two experts participated in evaluation of the conceptual and semantic equivalence of FIAI. Two concepts (“myrekryb” (=cramping) and “fest” (=party)) had different meanings in Swedish and Danish and needed further clarification. 225 patients from four dialysis centres (including four satellite units) completed the Danish FIAI. Analysis of construct validity and internal consistency is ongoing.

Conclusions
Primarily findings indicate that the Danish FIAI can be used in clinical practice as a screening instrument for SE and evaluation tool among adult haemodialysis patients with restricted fluid allowance.
Translation and linguistic and cultural adaptation of the Norwegian Discharge of Elderly Questionnaire for use in an intervention project to ensure older patients’ involvement in transition from hospital to primary care in Denmark

Mette Spliid Ludvigsen¹, Pernille Bugge Petersen², Sessan Holmberg³, Rebekka Rasmussen³, Line S.

¹Clinical Research Unit, Regional Hospital of Randers, ²Dept. of Medicine, Regional Hospital of Randers, ³VIA University College, Campus Randers

Background
Transition of older patients from hospital to primary care has been associated with physical and psychological distress and health decline leading to readmission and negative patient experiences. Patients’ involvement in their care is one of several themes in the 2015 Danish Health Agreement, and the Danish Healthcare Quality Programme for municipalities and hospitals emphasise the importance of patient involvement to optimise patient pathways. Involvement of older patients is supported by the ethical imperative of participation in itself, but also by its potential for improving patients’ experiences. However, current research indicates that older patients’ involvement in transitional care is not well developed and knowledge about older patients’ experiences of being involved in the transition process is scarce. The Norwegian Discharge of Elderly Questionnaire (DEQ) has been developed to describe older hospitalised patients’ experiences of involvement in discharge planning. This study aims to translate the DEQ from Norwegian into Danish and furthermore to examine face validity of the translated questionnaire, and adapt it linguistically and culturally to be used in an intervention project on transition of older patients from secondary to primary care in Denmark.

Methods
The DEQ has been translated into Danish by the first author and is currently evaluated by a research nurse and four nursing students. In a pilot study of six persons similar to the potential respondents the questionnaire will be tested for face validity. The DEQ questionnaire will be adapted linguistically and culturally and tested through semi-structured interviews.

Results
Study is ongoing.

Conclusions
Danish-language instruments that will enable evaluation of older peoples’ experiences of involvement in transition processes are needed. The DEQ may be suitable for this purpose.
29. Constipation and defecation pattern the first 30 days after hip fracture

Mette Trads\textsuperscript{1}, Preben U. Pedersen\textsuperscript{2}

\textsuperscript{1}Dept. of Orthopedic Surgery, Regional Hospital of Randers, \textsuperscript{2}Aalborg University

\textbf{Introduction}

Constipation is often an overlooked aspect of patient care and increases the risk of postoperative complications, can prolong hospital stay, increase financial cost, and staff nursing care time.

\textbf{Material and method}

A prospective descriptive design was used. 106 patients with hip fracture participated. On admission, day of discharge and 30 days after surgery patients normal and actual defecation pattern, stool consistency and whether they had experienced problems with defecation was assessed using Bristol Stool Scale and a scale composed by Rasmussen.

\textbf{Results}

69.1 \% of the patients developed constipation during the first postoperative days and 62.3 \% reported the same problems 30 days after surgery. Normal defecation pattern was re-established 9.5 days after surgery though 22.7 \% of the patients did not re-establish normal defecation pattern within the first 30 days after surgery.

\textbf{Conclusion}

The results imply that further studies are needed to prevent constipation and help patients to cope with this side effect of surgery after discharge.
Introduction
Constipation is a common complication to surgery. The prevalence in surgical patients is 50-72%. In order to identify patients at risk of getting constipated the “Constipation Risk Assessment Scale” (CRAS) is developed and it is recommended in national clinical guideline for use in Danish hospitals. CRAS is a tool containing of 33 items including mobility, intake of fibres and fluid, pathophysiological factors and use of different medications. CRAS has been validated in cancer patients and in mixed medical and surgical patients.

Aim
To examine the accuracy of CRAS in a group of both acute and elective orthopaedic patients 30 days after surgery.

Method
Prospective cohort design. 206 patients with hip fracture and 200 patients with total knee or hip replacement were assessed with CRAS at admission or in the outpatient clinic and they all received a phone call after 30 days in order to detect whether they had been constipated. Constipation was measured with Bristol Stool Scale, Rasmussen scale for difficult defecation and how often they were evacuating.

Results
The prevalence of constipation: .34-.49

Sensitivity: .57-.67

Specificity: .52-.54

Positive predictive value: .59-.63

Negative predictive value: .38-.7

Conclusion
Used in an orthopaedic ward the prognostic accuracy for CRAS is too poor and the risk of over and under diagnosing patients is too high. Therefore CRAS cannot be recommended as a screening tool.
Project protocol RCT: Implementation of home-based HPV self-sampling to increase participation rate in cervical cancer screening

Mette Tranberg Nielsen¹, Bodil Hammer Bech, Jan Blaakær², Berit S. Andersen¹

¹Department of Public Health Programs, ²Department of Obstetrics and Gynecology, Aarhus University Hospital

Background
The overall participation in the Danish organised cervical cancer screening program is 64%. Despite of two written reminders to non-attendees the requested 75% participation is not fulfilled. Almost half of the invasive cervical cancer cases in Denmark are diagnosed among women who do not attend screening regularly. A test-kit for home-based cervico-vaginal self-sampling for human papillomavirus testing (HPV self-sampling), mailed to the laboratory for analysis, can improve participation rate as it may re-attract non-attendees into cervical cancer screening.

Aim
To evaluate the effect on the participation rate of a HPV self-sampling kit provided in either of two different ways as compared to a regular second reminder to see a general practitioner for a screening test.

Methods/Design
Randomised controlled trial. Approximately 9,500 women aged 30-64 years, who have not participated in cervical cancer screening after an invitation and one reminder. Women will be included consecutively over a period of estimated five months and randomly allocated 1:1:1 to one of the following arms;

- self-sampling 1: Directly mailing of a HPV self-sampling kit
- self-sampling 2: Invitation to receive a HPV self-sampling kit on demand
- control group: Usual care

Primary outcome will be the proportion of women who participate in the two interventions arms as compared to the control group (intention-to-screen analysis). Secondary outcome will be the proportion of women with a positive sample who attend follow-up within one month. Furthermore, sociodemographic differences will be explored by use of registry data.

Discussion
The trial will provide strong and important evidence if and how HPV self-sampling can be used to increase participation rate in the Danish cervical cancer screening program.
32. Impact of opportunistic testing in a systematic cervical cancer screening program: a nationwide registry study

Mette Tranberg Nielsen1, Mette Bach Larsen1, Ellen M. Mikkelsen2, Hans Svanholm3, Berit S. Andersen1

1Department of Public Health Programs, 2Department of Clinical Epidemiology, Aarhus University Hospital, 3Institute of Pathology, Regional Hospital of Randers

Background
Even in countries with systematic cervical cancer screening programs, many women are tested opportunistically. This study aimed to determine the spread of opportunistic testing, the impact of opportunistic testing in detecting cytological abnormalities, and examine the associations between sociodemography and opportunistic testing.

Methods
A registry study of 807,624 women aged 23–49 years with a cytology between 2010 and 2013. The women were categorised into: 1) screened after invitation; 2) routine opportunistic tested (more than 9 months to 3 years after the latest invitation or 2.5–3 years after the latest cytology and 3) sporadic opportunistic tested (no invitation, but a cytology taken less than 2.5 years after the latest cytology). Prevalence proportion differences (PPD) and 95% confidence intervals were used to explore group differences in cytological diagnoses. Associations between sociodemography and opportunistic testing were examined by multinomial logistic regression.

Results
In total, 28.8% of the cytologies were due to routine (20.7%) or sporadic (8.1%) opportunistic testing. Women undergoing routine opportunistic testing, had a larger proportion of HSIL abnormalities than invited women (PPD: 0.6%, 95%CI: 0.03–1.17%). Women undergoing sporadic opportunistic testing and invited women had similar proportion of cytological abnormalities. Younger age, being single or a social welfare recipient and residence region were associated with opportunistic testing.

Conclusions
One fourth of cytologies were collected opportunistically. Women undergoing routine opportunistic testing were more often diagnosed with abnormal cytologies than invited women. Hence, routine opportunistic testing might be an important supplement to the systematic screening program by covering non-participating women who may be tested with a delay or not tested at all. Among women undergoing sporadic testing, no benefits in detecting more cytological abnormalities were found.
The effect of a systematic educational program in focused cardiopulmonary ultrasound for anesthesiologists – a prospective before-and-after study

Morten Thingemann Bøtker, Marianne Krogh Lauridsen Vang, Thorbjørn Grøfte, Hans Kirkegaard, Christian Alcaraz Frederiksen, Erik Sloth

Introduction
Focused ultrasonography rapidly expands in emergency care but the training needed to efficiently perform these examinations is highly debated. The aim of this study was to evaluate the effect of a systematic educational program in focused ultrasonography of the heart and pleura for anesthesiologists.

Methods
Prospective before-and-after study. 25 anesthesiologists underwent a systematic educational program in focused ultrasonography of the heart and pleura comprising e-learning, a hands-on course and ten supervised clinical examinations. An ultrasonography expert evaluated the interpretational value of baseline and evaluation examinations performed in two healthy individuals. The primary outcome was the proportion of images suitable for clinical interpretation.

Results
Thirteen (52%) participants were consultants, five (20%) were specialist registrars and seven (28%) were house officers. They had an average 14.5 (±10) years of medical experience. Twelve (50%) had previously attended a course in FATE or echocardiography. The systematic educational program increased the proportion of images produced by the anesthesiologists that were useful for clinical interpretation from 71% to 98% (p<0.001). The proportion of images useful for interpretation after completion of the educational program was independent of participant age and previous ultrasonography experience. Ultrasonography skills seemed to be retained for up to at least 3 months.

Discussion
Scandinavian guidelines for training and clinical application of focused ultrasonography in prehospital- and emergency medicine have not been published. The present study demonstrates one way of achieving focused ultrasonography skills.

Conclusion
Excellent image acquisition skills can be achieved and retained in anesthesiologists by a systematic educational program in focused ultrasonography of the heart and pleura comprising e-learning, hands-on course and supervised examinations.
34. Can definitive diagnosis of colo-rectal carcinoma metastasis in liver biopsies and serous effusions be established using SATB2 and CDX2 immunohistochemistry?

Parag Deepak Dabir¹, Jens Johannes Christiansen¹

¹Institute of Pathology

Background

CDX2 is routinely used as a colorectal carcinoma immunohistochemical marker. Anti-CDX-2 antibody has been previously useful for identifying gastrointestinal origin of metastatic adenocarcinomas and carcinoids, but a high percentage of mucinous carcinomas of the ovary and carcinomas of the upper gastrointestinal tract also show positivity with this antibody. SATB2 is a new marker with a few scientific studies showing that it is specifically expressed in a large majority of colorectal carcinomas. We postulate that this study will make it possible to identify and locate "colon - rectum" as the origin of carcinoma in patients with liver metastases and serous effusions, clinically presented with an unknown primary tumor.

The purpose of this study is to evaluate the new immunohistochemical marker SATB2 with the one we routinely use i.e. CDX2 to localise the site of primary tumor as “colon-rectum”. This could affect the patient’s prognosis and ensure early and appropriate treatment for that patient.

Methods

Liver biopsies and serous effusions received in the Department of Pathology, are routinely stained with Hematoxylin & Eosin and Alcian blue-PAS special stain. Immunohistochemistry panels are ordered depending on the case. Currently immunohistochemistry panels are composed of combination of different markers like Calretinin, EP4, CEA, EMA, Vimentin, TTF-1, CK7, CK20, CK5 / 6, CDX2, Estrogen receptor etc. We have included about 100 liver biopsies and serous effusions from patients with metastases of unknown origin in the period 1.6.2014 - 1.10.2014. Two further sections are stained each for SATB2 and CDX2 immunohistochemistry. Sections stained with SATB2 and CDX2 are assessed individually by two pathologists.

Results and Conclusions

Awaited
35 Effect of a Decision Aid in the Danish National Colorectal Cancer Screening Programme: A Randomised controlled trial among citizens with lower educational attainment in the Central Denmark Region

Pernille Gabel¹, Mette Bach Larsen¹, Adrian Edwards², Berit Andersen¹

¹Department of Public Health Programmes, Randers, DK ²Institute of Primary Care & Public Health, Cardiff University, UK

Introduction
All Danish citizens (50-74 years) are invited biannually to colorectal cancer (CRC) screening by Faecal Occult Blood Testing. Screening prevents every fourth CRC death in citizens screened at least once.

Citizens with lower educational attainment (LEA) more often die from CRC and participate less in screening. This yields a social gradient in the programme. To ensure patient autonomy and a patient-centered health care system, decision aids (DA) have been developed to support citizens in making informed decisions.

The aim of this study is to assess the effect of a DA in the CRC screening programme on (1) the proportion of citizens with LEA making an informed choice and (2) their level of decisional conflict.

Methods
The study is a randomised controlled trial with three parallel groups. All citizens due to be invited to CRC screening in the Central Denmark Region in a five month study period (n=46,000), will be included. Groups one and two receive a baseline questionnaire two-six months before invitation. Those who have not returned a stool sample within a month after the invitation will receive a reminder as part of the normal programme. Citizens in group one receive the DA along with the reminder. Follow-up questionnaires are sent to all three groups two months after the reminder. The primary outcome is informed choice. Secondary outcomes are anxiety, decisional conflict and participation. We will identify levels of health literacy and sources of support, also from the questionnaires. These and other variables on marital status, educational level, ethnicity and income (obtained from Statistics Denmark for all included citizens) will be examined to assess whether they modify the effects of the intervention.

Discussion
It is expected that introducing a DA will support citizens with LEA in making an informed choice about participation in CRC screening. This is expected to reduce social inequality in programme participation and effectiveness.
36. Reasons for telephone contacts and demographic characteristics of citizens calling the screening administration unit of a Danish colorectal cancer screening programme. Preliminary results.

Pia Kirkegaard, Berit Andersen, Mette Bach Larsen

Department of Public Health Programmes, Randers, DK

Background
In the Danish colorectal cancer screening programme, all citizens between 50 and 74 of age receive an invitation to participate. The participation rate in Central Denmark Region is 67% for women and 61% for men. Citizens may call the screening administration in case of requests or questions about participation. The extent to which and why citizens use the opportunity to call remain underexplored.

The aim of the study was to describe reasons for telephone contacts and examine associations between reasons for calls and demography, compared with a background population.

Methods
The study was a cross-sectional study. A web-based questionnaire was filled out by secretaries during telephone calls from citizens. Reasons and demographic characteristics were registered from April 23rd until June 24th 2015, 43 work days in total. An in-house register provided data about the background population. Pearson’s chi-squared test and multiple logistic regression were used to estimate demographic differences between groups and examine demographic predictors for reasons for calls.

Preliminary results
Out of 1,632 calls, 43% came from men and 57% came from women. The main reasons for calls were unsubscription to screening (26% of all calls) and counseling (23% of all calls). Calls about unsubscription were associated with female sex (16% vs 9%) while calls about counseling were associated with higher age (66-74 years).

Conclusion
In spite of a lower participation rate among men compared to women, more calls about unsubscription came from women compared to men. The study prepares the ground for research about the relevance of gender and age-specific invitations and interventions.
37. Focused Cardiac Ultrasound during Cardiopulmonary Resuscitation – Which Time Window is Best for Obtaining Images

Rasmus Aagaard ¹,², Asger Granfeldt³, Bo Løfgren³, Morten Bødtker²

¹Clinical Research Unit, Regional Hospital of Randers, ²Department of Anesthetics, Regional Hospital of Randers, ³Department of Internal Medicine, Regional Hospital of Randers

Background
Surviving cardiac arrest is unlikely unless a reversible cause is detected and treated. International resuscitation guidelines state that focused cardiac ultrasound has the potential to detect reversible causes of cardiac arrest. High quality chest compressions with minimal interruptions improve survival, but there is no evidence to support a survival benefit from focused cardiac ultrasound during resuscitation. In order to minimize interruptions in chest compressions, the performance of focused ultrasound should be incorporated into advanced life support algorithms. The aim of this study is to compare the quality of cardiac ultrasound images obtained during ventilations, chest compressions, and rhythm analyses - during resuscitation.

Methods
In this prospective observational study, patients above the age of 18 years in cardiac arrest at Regional Hospital of Randers are eligible for inclusion. Senior anesthesiologists, all trained in Focused Assessed Transthoracic Echocardiography (FATE), will perform the ultrasound examinations. During resuscitation performed by the hospitals cardiac arrest team, the senior anesthesiologist will scan and save ultrasound loops during ventilations, chest compressions, and rhythm analyses.

Results
As this is an ongoing study at our hospital, we would like to refrain from reporting preliminary results as this may influence data acquisition. We wish to present interesting examples of cardiac ultrasound loops obtained in the study so far.

Perspectives
Cardiac ultrasound performed during resuscitation has a potential for rapid and precise detection of reversible causes, which may improve outcomes. However, with limited knowledge on the significance of different ultrasound findings, there is also a risk of harm. This study will provide valuable information on when to perform ultrasound examinations during resuscitation and may contribute to future international guidelines on focused ultrasound during resuscitation.
Prophylactic antibiotic treatment for midurethral sling operations. Multicenter study in Region Midt

Sai Olivia Dumas-Johansen¹, Isil Pinar Bor¹, Marianne Glavind-Kristensen ²

¹Department of Obstetrics and Gynecology, Regional Hospital of Randers; ²Department of Obstetrics and Gynecology, Aarhus University Hospital

Background
Urinary incontinence is a common condition with a prevalence of 25-45 % in Denmark. Stress urinary incontinence is the most common type of urinary incontinence in women, and is mainly treated surgically with midurethral sling (MUS) procedure. In these procedures a synthetic mesh is placed under the midurethra and antibiotic prophylaxis has been routinely used. However, the need of prophylactic antibiotics is controversial.

The aim of this study was to investigate the incidence of postoperative infections with and without a regime of prophylactic antibiotics in women undergoing MUS operations. Furthermore we compared the incidence of complications and voiding problems after MUS operations in the two groups.

Methods
Multicenter study in four Urogynecology Centres in the Central Region of Denmark.

Control group: Women operated from May 1th 2013 - April 30th 2014. In this period a single dose of preoperative prophylactic antibiotics was given.

Intervention group: Women operated from May 1th 2014 - April 30th 2015. In this period routine prophylactic antibiotics were not recommended.

Data were collected from the Danish Urogynaecological Database (DUGA Base), the electronic medical records (EPJ) and from Danish National Database of Reimbursed Prescriptions.

Results
We included 366 patients in the study; 186 patients in the control group and 156 patients in the intervention group. The incidence of postoperative infections in the control group (27.4 %) was significantly higher than in the intervention group (17.3 %) RR 1.27, (95 % CI, 1.04-156). There were no differences in the incidence of other postoperative complications or voiding problems after MUS operation between the two groups.

Conclusions
Our study demonstrates a significant lower risk of postoperative infection in patients operated without routine prophylactic antibiotics. Thus, our study supports a national recommendation that routine prophylactic antibiotics in MUS surgery can be omitted.
39. CONDISOX: Continued versus discontinued oxytocin stimulation of labour in a double-blind randomised controlled trial.

*Sidsel Boie*¹, *Isil Pinar Bor*¹, *Julie Glavind*¹, *Niels Uldbjerg*², *Phillip Steer*

¹Department of Obstetrics and Gynecology, Regional Hospital of Randers, ²Department of Obstetrics and Gynecology, Aarhus University Hospital

**Background**

The proposed study will investigate the effect of Syntocinon® (synthetic oxytocin) to induce or augment labour. The hypothesis to be studied is that once the active phase of labour has commenced, Syntocinon® can be discontinued and the labour process will continue.

**Methods**

**Design**

Double-blind randomised controlled multicentre trial

**Setting**

Aarhus University Hospital and

**Population**

1200 women stimulated in the latent phase of labour with oxytocin for induction or augmentation

**Intervention**

The Syntocinon® infusion will be replaced with either continuous isotonic saline (placebo) or Syntocinon® infusion (control group), when the active phase of labour is reached.

**Main outcome measures**

Caesarean section (primary outcome), tachysystole, neonatal asphyxia, birth experience, and breastfeeding.

**Perspective**

Syntocinon® is on the list high-alert medications and associated with complications for mother and child during labour. Reducing the duration of stimulation during labour may lower the number of asphyxial sequelae, acute caesarean sections and other adverse effects. If the hypothesis of this study is supported by the results of this trial, it is likely to have a major impact on international and Danish clinical practice concerning induction and augmentation of labour.
40. Organskade efter hjertestop udløst af hjerterytmeforstyrrelse sammenlignet med iltmangel - Et dyreeksperimentelt studie

Søren Rahbek 1,2, Lauge Vammen 2, Asger Granfeldt 3, Bo Løfgren 4

1 Clinical Research Unit, Regional Hospital of Randers, 2 Center for Emergency Research, Aarhus University Hospital, 3 Department of Anesthetics, Regional Hospital of Randers, 4 Department of Internal Medicine, Regional Hospital of Randers

Baggrund
Hvert år rammes 3500 danskere hjertestop uden for hospital. Heraf opnår cirka 40 % spontant kredsløb, mens det kun er cirka 10 % udskrives fra hospital i live. Aktuelt behandles patienter med hjertestop ens uafhængigt af udløsende årsag. Forskning har vist, at graden af celleskade i henholdsvis hjerte og hjerne er forskellig afhængigt af om den udløsende årsag er hjerterytmeforstyrrelse eller iltmangel. For at øge overlevelsen efter hjertestop, er viden omkring årsagerne til organskade nødvendig. Formålet med dette studie er at undersøge forskelle på skader, der opstår i hjerne og hjerte, som følge af hjertestop udløst af henholdsvis hjerterytmeforstyrrelse og iltmangel.

Hypotese
Hjertestop udløst af iltmangel medfører i større grad af hjerneskade pga. frigivelse af iltradikaler, mens hjertestop udløst af hjerterytmeforstyrrelse resulterer i større skade på hjertemuskulaturen som konsekvens af større iltforbrug i hjertet.

Metoder
I en eksperimentel hjertestopmodel, hvor rotter randomiseres til hjertestop udløst af enten hjerterytmeforstyrrelse eller iltmangel, vil vi undersøge, hvad der forårsager forskellen i celleskade ved disse typer hjertestop. Der vil blive målt på hæmodynamiske parametre, adenosintrifosfat (ATP), iltradikaler samt antioxidant reserve. Målingerne vil blive gennemført før, under og efter hjertestop.

Perspektiver
Overlevelsen ved hjertestop er ringe. Resultatet af vores studie vil bidrage til mere viden om de mekanismer der giver celle- og organskader ved hjertestop. Dette kan lede til at målrette behandlingen alt efter årsagen til hjertestop og derved øge overlevelsen.
41. Can increase in positivity rate of analysed C. trachomatis be explained by changes in indications for testing and age of tested individuals?

**Stephanie Frausing Knudsen**, **Berit S. Andersen**, **Svend Ellerman-Eriksen**

1Department of Public Health Programmes, Randers, DK, 2Clinical Microbiological Department, Aarhus University Hospital

**Background**

According to Danish surveillance data the C. trachomatis testing volume in Denmark has gradually increased since 2002, reaching a maximum of 351,507 tests performed in 2014. Meanwhile, the positivity rate in analysed samples has also mainly increased from 5.9% (2002) to 8.9% (2013) remaining largely unchanged in 2014 at 8.8% despite the highest case numbers registered so far. This has been interpreted as a token of an increase in prevalence of infection in the general population.

The aim of this study is to analyse possible trends in changes in indication for testing and age and gender of the tested from 2002-2014. Furthermore, we assess if increasing positivity rate can be explained by changes in indication for testing and age of tested men and women.

**Methods/design**

This is a cross-sectional study. The study population include individuals aged 12-79, who had at least one urogenital sample analysed for C. trachomatis infection from 2002 to 2014. Samples obtained in seven municipalities were included. Data has been collected from the administrative database MADS (Mikrobiologisk Afdelings Data System). The following data are included for each sample: age and gender of tested individual, date of sample registration, test indication (e.g. symptoms, partner notification etc.), sample type (e.g. cervical sample, urine sample etc.) and test result (positive/ negative).

**Discussion**

This study evaluates epidemiological aspects of the spread of C. trachomatis infection including possible trends in indication for testing which might explain recent years increasing positivity rate. This may contribute to understand Danish C. trachomatis surveillance data. Such data are important when for example testing guidelines for C. trachomatis infections are developed.
42. Bialtrial thromboembolus caught in transit through a patent foramen ovale. A case report.

Stine H. Madsen; Ina E. Holm

Institute of Pathology, Regional Hospital of Randers

Background
An unexpected autopsy finding in a 53-year-old man with newly diagnosed disseminated coloncancer.

Method
A 53-year-old man who received chemotherapy for a T4 coloncancer was hospitalized with progressive dyspnea. Echocardiography showed an ejection fraction of 50% and dominating right heart chambers. During subsequent CT scan the patient suffered cardiac arrest and all attempts at resuscitation failed.

Results
The pulmonary artery was blocked by a large thromboembolus and numerous peripheral emboli were found in both lungs. In the heart a vermicular thrombus (60 x 8 mm) was trapped in a patent foramen ovale.

Conclusion
Cancer is one of the most common acquired risk factors for venous thromboembolism (VTE). The prothrombotic state is exacerbated further by chemotherapy. Patients with active malignancy have a 4-fold to 7-fold higher incidence of symptomatic VTE than the general population. Foramen ovale remains patent in up to 27 % of the adult population. Among patients with pulmonary embolism (PE), the presence of a PFO is an independent predictor of death because of the risk of a paradoxical embolus (PDE). PFO is significant in the etiology of PDE if associated right-to-left shunt occurs - in our case increased right atrial pressure caused by high pulmonary vascular resistance.

This case is a classical example of the association between cancer and venous thromboembolism, but with the additional unexpected finding of an impending paradoxical embolus across a patent foramen ovale.
43. Pain, quality of life, recurrence rate and adhesions after laparoscopic ventral hernia repair- A blinded randomised controlled trial.

Sanne Hasløff¹; Thorbjørn Sommer¹, Hans Friis Andersen², Pål Wara³

¹Department of Surgery, Regional Hospital of Randers; ²:³Department of Surgery, Regional Hospital of Horsens; 3 Aarhus University Hospital

Objectives
The aim of this study is to test three types of mesh fixation in laparoscopic ventral hernia repair regarding immediate and long-term effects on pain, quality of life, adhesion formation and recurrence.

Our hypothesis is: “Non-traumatic fixation of mesh will cause less pain than any other type of fixation”

Design
A clinical randomized, prospective, double blinded study

Participants
75 patients with ventral hernias between 2 cm -7 cm. Patients will only be enrolled if otherwise suitable for surgery.

Interventions
Laparoscopic ventral hernia repair with implantation and fixation of mesh.
Randomization between three types of mesh fixation will be performed:
1. Tissue glue (Glubran IITM) - 25 patients
2. Non-absorbable traumatic fixation (ProTackTM) - 25 patients
3. Absorbable traumatic fixation (Securestrap TM) - 25 patients

After surgery patients will participate in the following at different time points:
Fill out questionnaires (Dolo TestTM, Pain Diary, SF-36TM, Carolinas Comfort ScaleTM)
Clinical examination
MR scan (once at 24 months)
Follow-up visits at: 1 month, 6 months, 12 months and 24 months.

Measures
Primary endpoint: Pain on the 2nd postoperative day.
Secondary endpoint: Pain (at other time points than above), quality of life and recurrences.

Perspectives
This study will be the first to compare the effects of three types of mesh fixation on the central endpoints pain and recurrence, in a randomized, prospective design. The results may provide an evidence base for selection of method of mesh fixation.
44. Shocks during Cardioversions are Not Uncommonly Delivered Asynchronous Including in the Vulnerable Phase of the T-wave: A Post-hoc Analysis of a Randomized Controlled Study

Anders Sjørslev Schmidt1; Kasper Glerup Lauridsen1; Hans Rickers2; Leif Frausing Bach3; Bo Løfgren1,2

1Medical Department, Regional Hospital of Randers, 2Research Center for Emergency Medicine, Aarhus University, Aarhus, Denmark. 3Department of Anesthesics, Regional Hospital of Randers

Background
Shock synchronized to the QRS-complex is essential to avoid cardioversion induced ventricular fibrillation. Several defibrillators are used in clinical practice, but little is known about their ability to synchronize shocks in real life use.

Aim
To investigate if shocks are delivered asynchronous during synchronized cardioversion.

Methods
A post-hoc analysis of a randomized study enrolling patients admitted for elective cardioversion was performed. Patients were randomized to receive cardioversion by LIFEPAK 20 (Physio-Control Inc., Redmond, WA, USA) or Schiller Defigard 5000 (Schiller AG, Baar, Switzerland). All shocks were delivered with the defibrillators in synchronization modus. Post-hoc, we investigated the ability to synchronize, i.e. the delay between the R-wave and shock delivery, by reviewing electrocardiographic shock recordings. According to the Association for the Advancement of Medical Instrumentation a synchronized shock should be delivered within 60 milliseconds after the R-wave.

Results
A total of 65 patients received cardioversion by LIFEPAK 20 (mean age: 67 years, 14% atrial flutter), and 70 patients Schiller Defigard 5000 (mean age: 66 years, 14% atrial flutter). Overall, 138 shocks were delivered by LIFEPAK 20, all of them delayed more than 60 milliseconds (range: 80-200 milliseconds). All LIFEPAK 20 shocks were however delivered between the R-wave and the T-wave upstroke. In total, 193 shocks were delivered by Schiller Defigard 5000. Of these, 169 (88%) shocks were delivered within 60 milliseconds (range: 0-450 milliseconds), 180 (93%) between the R-wave and the T-wave upstroke, and 13 (7%) in the vulnerable part of the T-wave. Two of these shocks resulted in malignant ventricular tachycardia.

Conclusion
Synchronized shocks in cardioversions are not uncommonly delivered asynchronous, including in the vulnerable phase of the T-wave. Of these shocks, two resulted in cardioversion induced malignant ventricular tachycardia.