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Leder

Nyt år, nye mål og nye muligheder

Af redaktionen: Marie K. Jessen, Gitte Tygesen, Iben Duval, Malik Kalmriz samt Mikkel S. H. Jensen

2021 stod fortsat en god del i coronaens tegn, hvilket blandt andet har betydet at forskningsansatte har været trukket ud i klinikken til at bidrage med driften. Trods det så er der alligevel kommet flotte bidrag til tidsskriftet.

Et af bidragene kom fra vores kollegaer i Norge, Ofstad et al, som undersøgte effekten af faste akutlæger i akutmodtagelserne. Undersøgelsen viste at tilstedeværelsen af en akutlæge reducerer liggetiden og tendensen til crowding af patienter i akutmodtagelsen. Foruden bedring af patientflowet bidrog akutmedicineren også til øget psykologisk sikkerhed for de vagthavende yngre læger i akutmodtagelsen.

Læs artiklen ved at klikke her

Sammensætningen af redaktionen har også ændret sig med årsskiftet. Stifter og initiativtager Julie Mackenhauer træder ud af redaktionen, En stor cadeau til Julie for hendes indsats fra initiativ videre til fundraising og etablering af samt videre arbejde med tidsskriftet.

Redaktionen rummer nu Malik Kalmriz, Iben Duvald, Gitte Boier Tygesen, Mikkel Schjødt Heide Jensen og Marie K. Jessen.

En stor tak til alle, som har bidraget enten som forfattere, bedømmere eller i den faglige følgegruppe i 2021.

Har du eller en kollega noget videnskab liggende i skuffen, så indsend det. Vi håber at endnu flere vil indsende bidrag i 2022, så vi når vores mål om at blive indekseret på PubMed.

De bedste nytårshilsner med håbet om et godt 2022.

Redaktionen

Dansk Tidsskrift for Akutmedicin

2021 Vol. 4
Original-, Udviklings- og kvalitetssikringsartikler

Original-, Udviklings- og kvalitetssikringsartikler

A case study: Laparoscopy in aiding diagnosis of Miliary tuberculosis presented with atypical abdominal pain.

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Resume

Abstract: Tuberculosis is a major cause of morbidity and mortality in developing countries.
Abdominal tuberculosis remains diagnostically challenging due to its nonspecific nature mimicking many other common conditions, which may delay appropriate therapy, but in turn may result in performing laparoscopy, which can be a useful diagnostic tool in diagnosing tuberculosis and initiating treatment at a early stage. We report a case of abdominal tuberculosis in a 20-year-old male who developed vague abdominal symptoms mimicking acute appendicitis, which led to laparoscopic exploration.

Faktaboks

Hvad ved vi?

Abdominal tuberkulose er en sjælden tilstand i den vestlige verden og kan være svær at diagnosticere. Symptombilledet er uspecifikt og kan forveksles med andre intra-abdominale tilstande der kan indicere kirurgi.

Hvad tilføjer denne artikel til vores viden?

Diagnostisk laparoskopi kan være en sikker metode til diagnostik af intra-abdominal tuberkulose.

Hvordan kan det bruges i danske akutmodtagelser/perspektivering?

Casen fremhæver vigtigheden af grundig sygdomshistorie indeholdende rejseanamnese og risikoadfærd. Diagnosen bør haves in mente hos den febrile patient med nylig rejse til områder med høj forekomst af tuberkulose. Ved mistanke om abdominal TB bør kirurgisk konference overvejes tidligt i forløbet.

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Malik et al., A case study: Laparoscopy in aiding diagnosis of Miliary tuberculosis presented with atypical abdominal pain.
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Background

Globally, tuberculosis is the leading cause of death from a single infectious agent (ranking above HIV/AIDS) and is still one of the top ten causes of death, despite the incidence rate declines with approximately two percent per year. Diagnosis and correct treatment of tuberculosis have prevented an estimated 54 million deaths over the period 2000–2017 [1].

Tuberculosis is commonly considered a pulmonary disease, although it may present in almost all organs. One of the uncommon sites is the peritoneal cavity involving the ileocecal region or liver. Because of atypical clinical manifestations, which may include fever, emesis, anorexia and generalized peritonitis, the condition can be misdiagnosed as other more common abdominal pathologies including appendicitis, ovarian malignancy or cholecystitis leading to unnecessary extended surgery [2, 3].

Case presentation

A 20-year old previously healthy Eritrean male was admitted to the hospital with a two-day history of right-sided abdominal pain, pyrexia, headache and multiple vomiting episodes. He reported no significant past medical, surgical, or family history, no alcohol use, no herbal agents nor suspected drug use. Vital signs of the patients were in the normal ranges with 36.6°C body temperature, 120/60 mmHg arterial blood pressure and 72/min heartrate.

Physical examination revealed right-sided abdominal tenderness, which was significant in the right hypochondrium and vague in the right iliac fossa. There were no signs of rebound tenderness, guarding or other signs of peritoneal reaction. Laboratory results reported an elevated C-reactive protein (CRP) level of 123 mg/L (normal: < 10 mg/L), increased International normalized ratio (INR) at 1.6 (normal: < 1.2), and a negative urine dipstick test. A tentative diagnosis of acute cholecystitis was suggested. Transabdominal ultrasound was without any specific pathological findings except for free fluid collection around cecal base.

Diagnostic laparoscopy showed a normal appendix, mesenteric lymphadenopathy, seropurulent fluid in the rectovesical pouch and a hyperemic liver surface with inflammatory peritoneal adhesions (Figure 1).

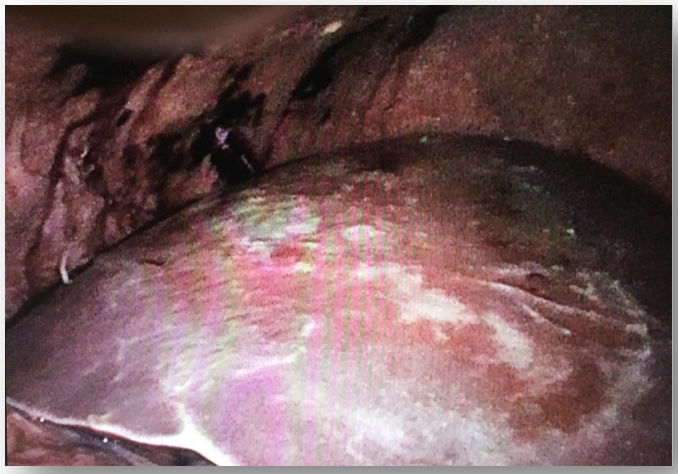

Figure 1: *Laparoscopic image showing perihepatitis and signs of inflammatory adhesions.*

The fluid sample was sent to microbiological culture, and cytological testing showed inflammatory cells without malignant cells. No biopsy samples were obtained during laparoscopy.

Further history revealed that four weeks prior to date of admission, he had unprotected sex from a four week travel trip in Ethiopia. The patient developed dry cough, night-shivers, fever of 40 °C and CRP increased to 277 mg/L despite antibiotic treatment with piperacillin and tazobactam.

Stool samples revealed no pathological bacteria, vira and parasites. Further medical tests were ordered to exclude hepatitis, tuberculosis, malaria, HIV, and sexual transmitted diseases. A QuantiFERON test (ELISA based test for detecting cellular immunity against Mycobacterium tuberculosis, although it cannot differentiate between active or latent

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infections) came out positive on postoperative day 3 suggesting tuberculosis. The patient was transferred to the department of infectious diseases. Chest X-ray was inconclusive, but CT scan of thorax showed tree-in-bud pattern in the apex of both upper pulmonary lobes and the right lower lobe, along with nodular infiltrates and multiple cavities measuring up to two cm in diameter. No mediastinal lymphadenopathy was disclosed (Figure 2).

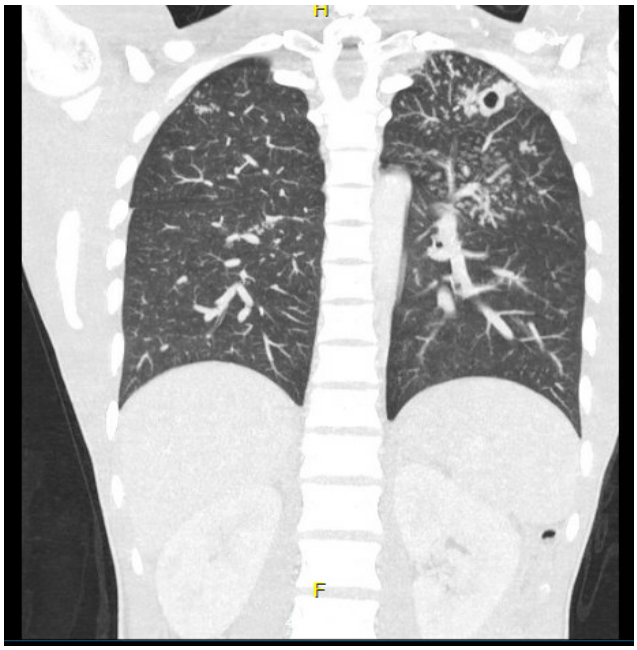

Figure 2: *Chest CT showing cavitation at the left upper pulmonary lobe.*

MRI scan showed no signs of meningeal tuberculosis. Polymerase chain reaction (PCR) test on the previously collected peritoneal seropurulent exudate was negative. The gastric lavage and throat swab showed acid-fast bacillus positive along with PCR positive for Mycobacterium tuberculosis, but resistance was inconclusive due to poor sample collection and was re-ordered. In addition, throat swab showed strains of mycoplasma pneumonia. Systemic therapy with a combination of isoniazid, ethambutol, pyrazinamide, and rifampin was initiated. The patient showed improvement and was discharged after two weeks with a follow-up at the outpatient clinic. Contact tracing for tuberculosis was performed without any new cases encountered.

Discussion

Tuberculosis (TB) is a highly contagious disease, with a short incubation period approximately 2-12 weeks, it can still manifest within 2 years after Mycobacterium Tuberculosis (MTB) exposure. Because TB is a rarity in developed countries, abdominal tuberculosis is even rarer and often overlooked without a proper background history and therefore should be considered as a differential diagnosis in patients with recent travel activity to tuberculosis endemic areas.

Because a positive QuantiFERON test does not distinguish between latent and active infection, treatment could not be initiated in our case. Many other tests lack either sufficient sensitivity or specificity. Thus, ascitic fluid cytology has high specificity but very low sensitivity from detection of acid-fast bacilli. Measuring the activity of adenosine deaminase (ADA) in ascitic fluid is a useful tool to detect abdominal tuberculosis in highly endemic areas. Levels higher than 0.40 uKat/l has a 100% sensitivity and a 99% specificity for diagnosing mycobacterium tuberculosis. However, its sensitivity and specificity are impeded in developed countries due to high prevalence of cirrhosis [4,5].

Moreover, radiological imaging lack both sensitivity and specificity due to diagnostic overlap with common radiological findings like ascites and nodular irregularities. Nevertheless, radiological imaging still has a place in localization of the disease after confirmed diagnosis. A CT-scan with contrast and a MRI can highlight infected areas in the body, and assist in differentiating pulmonary from extra-pulmonary tuberculosis. Ultrasonograhic guidance is usually required to obtain biopsy material.

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In the present case, tuberculosis was not suspected during laparoscopy. Intraperitoneal fluid but no biopsies were collected, which may had resulted in delay of diagnosis. In a retrospective study on peritoneal tuberculosis held in Tunisian, all patients (n=163) showed exudative ascites, 87 had miliary nodules and 69% had fibrous peritoneal adhesions. Additionally, 87% of cases showed caseating granulomas in peritoneal biopsies [6].

Bhargava et al classified peritoneal tuberculosis according to laparoscopic appearance. The three categories were 1: thickened peritoneum with yellow-whitish miliary tubercles with or without adhesions 2: Only thickened peritoneum with or without adhesions 3: only fibro adhesive patterns. The study concluded that specific medication might be started solely on the base of visualization through laparoscopy, as the visual diagnosis was accurate up to 95% [7].

Therefore, identification of Mycobacteria in any material is the gold standard when initiating anti-tuberculous treatment. It can be confirmed by (a) the presence of acid-fast bacilli in a throat swab, GL lavage or ascitic fluid; (b) positive culture for M. Tuberculosis in any of the aforementioned; (c) PCR assay for mycobacterium tuberculosis. However, culture can further delay the diagnosis up to 4-8 weeks, by which PCR is superior in minimizing the time of diagnosis, but again lacks sensitivity.

Conclusion

The diagnosis of abdominal tuberculosis is usually delayed due to presentation of non-specific abdominal symptoms, unpredictability of laboratory tests and lack of proper travel history, leading to laparoscopic surgery, which in turn can be a viable method for fluid and biopsy collection, along with a visual aid in detecting tuberculosis.

References

1. Global tuberculosis report 2019. Geneva: World Health Organization; 2019. Licence: CC BY-NC-SA 3.0 IGO accessed on 11-02-2020. https://www.who.int/tb/publications/global_report/en/

2. Piura B, Rabinovich A, Leron E, Yanai-Inbar I, Mazor M. Peritoneal tuberculosis--an uncommon disease that may deceive the gynecologist. Eur J Obstet Gynecol Reprod Biol 2003;110:230–4. DOI: 10.1016/s0301-2115(03)00101-5

3. Sanai FM, Bzeizi KI. Systematic review: Tuberculous peritonitis-presenting features, diagnostic strategies and treatment. Aliment Pharmacol Ther 2005;22:685–700. DOI: 10.1111/j.1365-2036.2005.02645.x.

4. Gökten DB, Katipoglu B, Basara E, Ates I, Yilmaz N. A case report of peritoneal tuberculosis: a challenging diagnosis. Case Rep Infect Dis 2018;2018:1–3. DOI: 10.1155/2018/4970836.

5. Hillebrand DJ, Runyon BA, Yasmineh WG, Rynders GP. Ascitic fluid adenosine deaminase insensitivity in detecting tuberculous peritonitis in the United States. Hepatology 1996;24:1408-12. DOI: 10.1002/hep.510240617

6. Kharrat J, Gargouri D, Ouakaa A, et al. Laparoscopic aspects of peritoneal tuberculosis. Report of 163 cases. Tunis Med 2003;81:558–62 PMID: 14608738

7. Bhargava DK, Shriniwas, Chopra P, Nijhawan S, Dasarathy S, Kushwaha AK. Peritoneal tuberculosis: laparoscopic patterns and its diagnostic accuracy. Am J Gastroenterol 1992;87:109-12. PMID: 1530803

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DANSK TIDSSKRIFT FOR AKUTMEDICIN

Konferencebidrag – Abstracts fra DEMC9

Do paramedics agree in scoring prehospital patients' mobility? An inter-rater reliability study of a prehospital mobility score

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DEMC9 abstracts

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Background: Early warning scores has been widely used as a triage tool but in some instances been limited in spotting critical ill patients. Reduced mobility has been associated with short-term mortality, increased length of hospital stays and has been suggested as an addition to early warning scores. Few studies investigated reliability of mobility scores. These have been in-hospital and based on specific patient types. Scoring of patient mobility in ambulances can be troublesome due to a hectic environment. There are no studies investigating inter-rater agreement of a mobility score applicable to a wide range of patients prehospital. The objectives of this study were to test inter-rater agreement between two ambulance clinicians using a mobility score for the same prehospital patient. Secondary to compare clinicians to observers and test if there is a difference in scores between regions.

Methods: A reliability study of a 4-category mobility score in the prehospital setting conducted on ambulance clinicians from the North- and Central Denmark Region and The Faroe Islands assessing patients. Data was collected between June 2020 to May 2021 and 251 ambulance patients' mobility scores were included. Data was evaluated by weighted kappa, Kruskall-Wallis and a post hoc Dunn test were used to examine differences in scoring between regions.

Results: Inter-rater agreement between ambulance clinicians showed a kappa 0.84 (CI95%: 0.79;0.88). This was supported with observers for North Denmark Region and Faroe Islands kappa 0.82 (CI95%: 0.77;0.86). Mobility scoring between ambulance clinicians in Central Denmark Region (n=93) and North Denmark Region (n=130) were not statistical different. The Faroe Islands (n=28) differed from the other regions ($p<0.05$).

Conclusion: These results indicate that the mobility score has a high level of inter-rater-reliability in a prehospital setting when used by ambulance clinicians. Comparing agreements between examined regions and ambulance providers show high inter-rater-reliability between clinicians. The mobility score may contribute to future studies investigating mobility as a predictor of patient's mortality. This could provide knowledge about how to improve patient triage and might be included as a vital sign.

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DANSK TIDSSKRIFT FOR AKUTMEDICIN

Contacts with deep vein thrombosis and pulmonary embolism in the Danish healthcare system from 2005-2016: A retrospective observational study

2022 Vol. 1
DEMC9 abstracts

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Background: The combination of Deep Vein Thrombosis (DVT) and Pulmonary Embolism (PE), Venous Thromboembolism (VTE), is the third most frequent cardiovascular disease. It can lead to chronic complications and can be lethal in the acute phase. As age is a risk factor for an increasing incidence of VTE, the growing elderly population is expected to increase the number of VTE. With this study, we aimed to investigate the number of VTE contacts in the Danish healthcare system from 2005-2016 with focus on yearly, monthly and daily variation.

Methods: We extracted data on patient contacts to all public Danish hospitals in the period from 2005-2016 with a diagnosis of either DVT or PE (ICD-10 diagnosis of I801, I802, I803, I808, I269, I269, I260 or I817D). Data will be presented descriptively as combined numbers but also stratified by weekday, month and year.

Results: We observed 57,804 contacts with DVT and 46,161 PE in the study period. DVT contacts was 5,005 (8.7%) in 2005 and decreased by 5.5% to 4,734 (8.2%) in 2016. For PE it we observed an increase of 96.8% from 2,579 (5.6%) in 2005 to 5,075 (11.0%) in 2016. When sampling months of all years, the month with the highest number of contacts for DVT were March with 5,150 (8.9%) and lowest being February with 4,550 (7.9%). For PE it was January with 4,350 (9.4%) and April with 3,505 (7.6%), respectively. Contacts with either DVT or PE was most likely during weekdays, Monday being the higher with 11,096 (19.2%) for DVT and 8,222 (17.8%) for PE. Weekends was least likely with Saturday being the lowest with 5,085 (8.8%) for DVT and 4,301 (9.3%) for PE.

Conclusion: Number of patient contacts to Danish hospitals in the period of 2005-2016 has been decreasing for DVT but increased for PE. We found a small variation in contacts with either diagnosis each month. For day of contact, the most likely was Monday and least likely Saturday.

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DANSK TIDSSKRIFT FOR AKUTMEDICIN

Diagnoses and mortality for patients with unclear problems calling for an ambulance

2022 Vol. 1
DEMC9 abstracts

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Background: Danish patients calling the Emergency Medical Services (EMS) with unclear problems are assigned a Danish Index for Emergency Care (DI) criteria called 'unclear problem'. Previous Danish studies found 'unclear problem' in 17% and 19% of all emergency calls. In the Emergency Departments, unclear problems identified as non-specific symptoms are well documented. We investigated EMS patients given an 'unclear problem' DI-criteria prehospitally, their hospital discharge diagnoses and 1-day and 30-day mortality rates.

Methods: Population-based observational cohort study investigating 7,935 EMS patients who received the DI-criteria 'unclear problem' upon an emergency call and who were brought to hospital in the North Denmark Region during January 1st, 2016 – December 31st, 2018. Outcome variables were; number of emergency ambulances dispatched, 'unclear problem' DI-criteria, and vital status (dead or alive) 30 days after hospital contact. We evaluated the association between ICD-10 diagnosis chapters and mortality adjusted for age, gender, and comorbidity. ICD-10 chapters 18: "Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified" and 21: "Factors influencing health status and contact with health services" were defined as 'non-specific diagnoses'.

Results: All ICD-10 chapters were represented in the discharge diagnoses. The majority (40.4%) were non-specific diagnoses. Common discharge diagnoses were circulatory (9.6%), injuries and poisoning (9.4%), and respiratory diseases (6.9%). Overall mortality rates were for 1-day and 30-day 2.3% (n=181) and 7.1% (n=566), respectively. Day 1 mortality rates were highest for circulatory diseases (8.6%), infections (5.4%), and respiratory diseases (4.0%). Mortality on day 30 was 2.6% and 4.1% for non-specific diagnoses, whereas circulatory, respiratory diagnoses and infections exhibted highest mortality rates. Risk of mortality was associated with age and comorbidities and when adjusted for these confounders, mortality rates decreased for all diagnoses.

Conclusion: EMS patients assigned 'unclear problem' and brought to the hospital received diagnoses from all ICD-10 chapters, the majority with non-specific diagnoses, followed by injuries and poisoning, circulatory and respiratory diseases. The latter two groups exhibited the highest crude mortality rates, decreasing substantially when adjusted for age and comorbidity. Mortality rates among patients with unclear problems were associated with age and comorbidities rather than the unclear emergency medical call and following discharge diagnoses.

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Christensen et al., Diagnoses and mortality for patients with unclear problems calling for an ambulance
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DANSK TIDSSKRIFT FOR AKUTMEDICIN

Diphoterine® for chemical burns of the skin; a systematic review

2022 Vol. 1
DEMC9 abstracts

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Background: Chemical burns represent a small part of burn injuries, but the incidence seems to increase. Traditionally a chemical burn is rinsed with water or water and soap. Diphoterine is an amphoteric, chelating, polyvalent, slightly hypertonic solution made for decontamination of chemical splashes proposing one treatment suitable for most kinds of chemical burns. Objective: In this systematic review we aimed to assess the effect of Diphoterine on chemical burns compared with water or no treatment. The primary endpoint was depth of burn and secondary outcomes included pain, duration of hospitalization, time to return to work, need for surgery, pH, and complications associated with using Diphoterine.

Methods: PubMed, Embase, Cochrane Library, Web of Science, and Google Scholar were systematically searched on March 22, 2021 using the term “Diphoterine”. Interventional, observational, and cohort studies were included. No language restrictions were applied. Risk of bias was assessed using the Cochrane Risk of Bias assessment tool for randomized trials and the Newcastle-Ottawa Scale (NOS 0-9) for non-randomized studies.

Results: A total of 8 studies were included. Only 1 retrospective study evaluated the depth of a chemical burn and found no difference between the Diphoterine group and the control group. Three studies reported on pain and found a more pronounced decrease in pain when using Diphoterine compared to the control groups. Two studies found significant improvement of pH when using Diphoterine. No studies found a difference in time to return to work or duration of hospitalization. No studies addressed the need for surgery. No studies found any complications associated to the use of Diphoterine. Risk of bias was judged high in the included RCT and the rest of the studies was awarded between 3 and 7 stars on NOS.

Conclusion: This systematic review found no difference between Diphoterine compared with water or no treatment on depth of a chemical burn. Diphoterine seems to be associated with less pain compared to water or no treatment, and Diphoterine seems to have a neutralizing effect of chemical burns.

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Disease severity of ambulance patients with non-specific diagnoses

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DEMC9 abstracts

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Erika Frischknecht Christensen

Background: Emergency department (ED) and emergency medical services (EMS) contacts are increasing and one third of ED patients receive non-specific diagnoses (ICD-10 chapters R 'symptoms and signs' and Z 'other factors'). We hypothesize that non-specific diagnoses may be assigned to 1) frail patients with potentially serious conditions presenting with unclear symptoms and 2) patients with unclear symptoms due to low disease acuity or severity. Thus, in EMS patients discharged with non-specific diagnoses, we investigated renewed contacts within 30 days, changes in diagnoses and corresponding changes in 30-day mortality.

Methods: Observational cohort study of patients brought to hospital after emergency call and discharged with an ICD-10-chapter Z or R diagnosis during 2016-2018 in the North Denmark Region. Mortality and renewed contacts (new contact within 30 days) were modelled by Poisson regression. Comorbidity groups was determined according to Charlson Comorbidity Index (CCI).

Results: Of 73783 EMS patients with hospital contact following an 1-1-2 emergency call, 32% (N=24229) were assigned a non-specific diagnosis upon discharge. Median age 56.0 years (32.7;73.1), 48.9% were female and 65.7% had no comorbidity (CCI=0), 25.9% had moderate (CCI= 1-2) and 8.4% had high comorbidity (CCI: 3-). Mortality within 30 days was 2.9% and 2095 patients had a renewed contact. Of these, 59.8% received a specific ICD-10 diagnosis; circulatory (17.5%), injury/poisoning (12.0%), mental/behavioral (11.1%), respiratory (8.2%) and digestive diseases (6.2%). In renewed contacts, patients with different diagnoses had more than a twofold increase in 30-day mortality (adjusted RR (95%CI)): 2.52 (1.27-4.98), higher mean age (58.3 vs. 54.2) and high comorbidity was more frequent (14.9% vs. 7.7%) when compared to patients with non-specific diagnoses.

Conclusion: One third of included patients were assigned a non-specific diagnosis, and less than 10% had renewed contact within 30 days. Compared to patients with a non-specific diagnosis, patients given a specific ICD-10 diagnosis upon renewed contact had more comorbidity and more than a twofold increase in adjusted mortality risk. The most frequent specific diagnoses for renewed contact were circulatory diseases, injury/poisoning and mental/behavioral disorders. Most emergency ambulance patients with non-specific diagnoses had low mortality and no renewed contact, however 5% had potentially serious underlying conditions and high mortality.

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DANSK TIDSSKRIFT FOR AKUTMEDICIN

Do nurses know their patients? Agreement between patients' self-reported degree-of-worry and nurses' estimation of patients' degree-of-worry

2022 Vol. 1
DEMC9 abstracts

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Background: Good quality of health care requires patient participation, however emergency medicine is centered around flow and production and to a lesser degree the patients' contextual perception of acute illness. Degree-of-worry is a simple subjective measure used to enable patients to rate their worry about the condition that initiated their contact to the acute health care system on a scale from 1 (minimally worried) to 10 (maximum worried). This study examines the agreement between patients' self-rated DOW and their nurses' estimation of the patients' DOW.

Methods: A total of 194 patient/nurse-pair from the emergency department at Amager Hvidovre Hospital were asked to rate their DOW (patients) and estimate their patients' DOW (nurses). Patients' age, gender, triage level, and co-morbidity was registered alongside the corresponding nurses' age, gender and work experience (years). DOW was categorized as DOW1 (DOW=1-3), DOW2 (DOW=4-6) and DOW3 (DOW=7-10). The agreement between patients' 3-level DOW and nurses' estimation of patients' 3-level DOW was assessed with equal weighted Cohen's Kappa. Additional kappa values stratified on patient's gender, age, co-morbidity and nurses' gender, age and seniority are also estimated.

Results: The difference between patients' 3-level DOW and nurses' estimation was in total agreement in n=58 pairs (29.9%) of the ratings. For n=136 patient/nurse-pairs there was not agreement between scores, which corresponds to a weighted Cohen's Kappa of 0.19 (0.30;0.08, $p<0.001$). Similar kappa values were found in analyses stratified for age, gender, nurse seniority.

Conclusion: The agreement between patients' 3-level DOW and nurses' estimation of patients' 3-level DOW is low and suggests that nurses do not know their patients' worries. This should be addressed in further research, as well as, clinical work.

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DANSK TIDSSKRIFT FOR AKUTMEDICIN

Effect of partial closure of an emergency department on utilization of emergency departments, an observational study

2022 Vol. 1
DEMC9 abstracts

Jonathan Harbak
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Mikkel Brabrand

Background: As a result of multiple recommendations from the Danish Health Authority during 2005-2006, the structure of emergency care was reconfigured, including a reduction in the number of entry points in the form of EDs. The reconfiguration process was set to start in 2007, with a goal of completion within 5-10 years. The aim of this study is to shed light on the effect of partial closure of an ED on the utilization of EDs.

Methods: Our population-based historic cohort study was based on data from Statistics Denmark and from Danish health registries, including the Danish Civil Registration System and the Danish National Patient Registry. We included all non-psychiatric ED contacts in citizens of Vejle municipal in the period 2014 to 2015 as Vejle ED on 5 January 2015 ceased its intake of acute orthopedic injuries between 10 pm and 7 am. As of 2015, Vejle municipality had 111,138 citizens. Contacts were excluded if patients where below 18 years old. For each contact emergency department utilized, residential municipal, and date of contact was extracted. Difference-in-difference (DID) estimation based on linear regression was employed, the dependent variable being aggregated daily ED contacts. The control group was defined as contacts between 7 am and 11 pm, and the cases being contacts between 11 pm and 7 am.

Results: The study included a total of 39,659 contacts. Out of these 34,901 where between 7 am and 11 pm, and 4,758 where between 11 pm and 7 am. In days before 5 January 2015 there was on average 7.33 contacts between 11pm and 7am, in days after the average was 5.75 contacts, resulting in a 21.6% drop. The DID analysis' comparison of contacts before and after 5 January 2015 resulted in a coefficient of -2.07, $p<0.01$, 95%CI [-3.44, -0.70].

Conclusion: In conclusion, the negative DID coefficient found shows a drop of 2 contacts per day between 11pm and 7am. This drop in utilization of EDs could indicate an inequality in accessibility to healthcare. This begs the question; which citizens does not utilize the EDs after reconfiguration, and what conquests this brings?

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Elderly Hospitalized Home-Patients in the Cross-Sectoral Team Care at North Zealand Hospital's Emergency Department

2022 Vol. 1
DEMC9 abstracts

Lasse Schmidt
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Thomas Schmidt

Background: With an increasing- and an increasingly aging population, the elderly morbidity burden is growing. This raises the question of how we can effectively respond to this health-care challenge in a hospital setting where more patients are both old and comorbid. Consequently, North Zealand Hospital's (NOH's) Emergency Department (E.D.) has launched a pilot project that explores the value of having a cross-sectoral team (CST) to specifically manage old (65+ y.o.), complexly ill, and vulnerable patients on a hospital-at-home (HaH) basis. The purpose of this study was to classify and categorize the CST's elderly HAH patients (not formally discharged from NOH's E.D. but receive home visits by the E.D.'s HaH nurses).

Methods: Data regarding the HaH CST-patients at NOH were prospectively gathered during February 2021. Microsoft Excel software was then used to categorize and analyze the data. Numeric data are given as means ± SEM.

Results: There were 227 HaH CST-interventions. Of these, 186 (81.9%) were elderly patients. The number of unique HaH elderly CST-patients (uHaHe-CSTps) was 108 (56 male and 52 female) aged 81 ± 0.8 years. The uHaHe-CSTps were categorized into age groups as following: 10 (65-69 y.o.), 18 (70-70 y.o.), 20 (75-79 y.o.), 17 (80-84 y.o.), 27 (85-89 y.o.), 13 (90-94 y.o.), 3 (95-97 y.o.). Of the uHaHe-CSTps, 93% were multimorbid, 82% had polypharmacy, 33.3% were readmitted patients within 2 weeks after ended HaH CST-intervention, and 4.6% died while in HaH CST-care.

Conclusion: NOH's E.D. has vulnerable, elderly, and complexly ill patients who may benefit from the medical care of the CST's HaH function. Furthermore, the HaH CST assists NOH's E.D. and the municipality by taking care of issues that can be handled effectively at the patient's home.

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Facilitation of evidence based discussions in an Emergency Department

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DEMC9 abstracts

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Background: Evidence based practice (EBP) is a way for the nursing discipline to minimize the gap between theory and practice. EBP is based on decision-making and is used to optimize patient outcomes and optimize clinical practice. To strengthen the nurses focus on EBP at the Emergency Department (ED), we introduced 10 minutes of professional nursing related discussion daily. A staff nurse and a clinical nurse specialist facilitated it and used EBP as a tool. The objective of this study aims to investigate if facilitation of "10 professional minutes" could strengthen the nurses focus on evidence and their practical skills using EBP as a tool.

Methods: Each day a nurse from the ED decided a topic for discussion. A clinical nurse specialist and a staff nurse facilitated the discussion by using a flip-over to illustrate the topic in the EBP model. To evaluate the project, a questionnaire containing 11 questions was distributed to all nurses at the ED (n=116) after 4½ month. Two focus group interview were performed to supplement the survey.

Results: The questionnaire had a response rate of 72%. 61% of the nurses answered that "10 professional minutes" had influenced their nursing practice. 54% gained an increased focus on guidelines and search for evidence. 54% found the EBP model contributed to a better understanding of working evidence based. 66% found that 10 professional minutes created a room for nursing-related discussion. From the focus group interviews with respectively employees and leaders, three identical themes emerged; "Framework with 10 professional minutes creates a culture for discussion about nursing", "The EBP model increase focus on evidence and nuances in nurses practical skills" and "10 professional minutes creates space for nursing-related discussion and reflection in daily work".

Conclusion: In conclusion, 10 professional minutes facilitate a better understanding and an increased focus of evidence-based work by use of EBP. It creates a room for nursing-related discussion and reflection to the nurses daily work. Further research is suggested to focus on implementation, where EBP will be an integrated part of the nurses daily work.

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Fewer emergency ambulances during the Covid-19-pandemic in North Denmark Region, a cohort study

2022 Vol. 1
DEMC9 abstracts

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Background: The Covid-19 pandemic have led to decreases in hospital admissions during the first period in the spring 2020, also among acute patients. However, it is not known if the pandemic had any influence on the most severely acutely ill and injured, that is patients calling the emergency number and requesting an ambulance. Prehospital data, both logistic and medical journals, are present in all of Denmark's five health care regions, as are in-hospital data. The aim was to study hospital diagnoses and 1-and 30-days mortality among the ambulance-patient population in the North Denmark Region in 2020 compared to previous years.

Methods: This is a regional pilot study in preparation of a nationwide study, designed as a population based historic cohort study of patients calling the emergency number in North Denmark Region in 2020 compared to the years 2017-2019. Prehospital data were linked with patient administrative data on hospital diagnoses (ICD-10) and date of death. Outcomes were prevalence and mortality. Proportions were estimated using Poisson regression and proportions were compared by relative risks (RR) with 95% confidence intervals (CI).

Results: Compared with 2017-19, there were 6.5 % (95%CI 3.6;9.2) fewer patients in 2020. The proportion of hospitalizes patients increased 1% (RR 1.01, 95%CI 1.01;1.02), whereas patients not brought to a hospital decreased 5% (RR 0.95, 95%CI 0.92;0.97). Proportion of patients with respiratory diseases was reduced, from mean 2042/year to 1479 in 2020 (RR 0.76, 95%CI: 0.72;081), particularly during the first period of the Covid-19 pandemic in March-June. There was no difference for other major diagnoses, such as cardiovascular disease with mean 3046/year versus 3083 in 2020. There was no difference in over-all 1 and 1-30-day mortality in 2020 compared to 2017-19, neither for patients with nor without hospital contact, and no difference in mortality for respiratory and cardiovascular diseases.

Conclusion: In the North Denmark Region the overall number of emergency calls decreased during the Covid-19 pandemic. Respiratory diseases decreased markedly by 24% in 2020. Opposed to other studies we found no difference for cardiovascular diseases. This may be a regional pattern, and a nationwide study is needed to elucidate this.

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DANSK TIDSSKRIFT FOR AKUTMEDICIN

First year residency in Emergency Medicine in Denmark: A review of current educational programs

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DEMC9 abstracts

Lasse Paludan Bentsen

Background: Emergency Medicine is the youngest Danish medical specialty, finally adopted in 2017 with the first residents enrolled in 2018. The residency consists of 1 year introduction employment with a primary residency spanning 5 years after the introduction year. The 1-year program consists of different setups of time in certain specialty areas, encompassing the primary specialties internal medicine, abdominal surgery and orthopedic surgery. The education programs can be differently structured, but with the same end qualifications for the resident. We aimed to investigate the different structures of the education programs for the 1st year residency in Emergency Medicine in Denmark.

Methods: All education programs were extracted from the three different medical educational regions in Denmark in March 2020. We reviewed all programs and the following data was extracted: Time in each primary specialty, medical courses, possibility to practice the role of team leader in critical ill patients and education in point-of-care ultrasound.

Results: 20 of 21 emergency departments in Denmark employs residents in Emergency Medicine for their 1-year introductory residency. 13 of 20 programs assess patients in internal medicine and abdominal surgery in the same time period. 7 out of 20 has pre-specified time for patients in abdominal surgery. 10 of 20 programs does not have specified time in orthopedic surgery. This is part of the internal medicine period or not specified further. Only programs in The Region of Southern Denmark have pre-specified periods for all three main specialties. 14 of 20 programs present opportunity to participate in medical courses such as Advanced Life Support. Only 3 of 20 programs present opportunity for further education in point of care ultrasound, other than the obligatory focused lung ultrasound and ultrasound guided peripheral access. 7 of 20 programs present opportunity to participate in primary assessment of critical ill patients as team leader or observer, for critical care calls.

Conclusion: The education programs in Denmark for Emergency Medicines 1st year residency varies greatly in both time in major specialties, medical courses, point-of-care ultrasound and training in the role as team leader.

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Higher paediatric readiness in emergency departments and trauma centres with a paediatrician on-site

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DEMC9 abstracts

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Background: Critically ill and injured children are frequently admitted to mixed adult/paediatric emergency departments and trauma centres. Children constitute a smaller proportion of patients in these facilities, thus leading to the risk of poor quality of paediatric emergency care being provided. Studies show that day-to-day readiness for the emergency care of children affect paediatric patient safety and is associated with a reduced risk of mortality among critically ill children. This study aimed to assess the level of paediatric readiness in Danish emergency departments and trauma centres. We hypothesised that trauma centres had a higher paediatric readiness than emergency departments.

Methods: From November 2020 to January 2021, a nationwide survey was conducted in all 18 Danish emergency departments and four trauma centres. The questionnaire was a Danish translation of the 2013 American assessment of paediatric readiness provided by the National Pediatric Readiness Project. Facility chief physicians were approached by phone and for those willing to participate, the questionnaire was e-mailed for completion by designated healthcare professionals working in the emergency department or trauma centre. Primary outcome was paediatric readiness, which was assessed using the weighted paediatric readiness score based on a scale from 0-100. A score of 100 points indicated full compliance with the 2009 American Guidelines for Care of Children in the Emergency Department. The weighted paediatric readiness score was presented as median with interquartile range (IQR). Our hypothesis was tested using the Mann-Whitney U test, and a P-value of less than 0.05 was considered statistically significant.

Results: A total of 13 emergency departments and three trauma centres replied resulting in a response rate of 73%. There was no significant difference in weighted paediatric readiness scores between emergency departments, median (IQR) 70.0 (56.1-78.2) and trauma centres 75.6 (70.9-78.4); (P = 0.42). Facilities with a paediatrician on-site 24/7 (n=12) had higher paediatric readiness scores 75.5 (67.7-78.8) than four facilities without an on-site paediatrician 53.8 (44.9-63.1); (P = 0.02).

Conclusion: Trauma centres did not have a higher paediatric readiness than emergency departments. However, we found a higher paediatric readiness in facilities with a paediatrician on-site.

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Jensen et al, Higher paediatric readiness in emergency departments and trauma centres with a paediatrician on-site
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Length of stay after admission for traumatic injury – before and after reconfiguration of Danish emergency departments

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DEMC9 abstracts

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Mikkel Brabrand

Background: There has been a large reconfiguration within the Danish emergency departments since 2007, including merging of hospitals and establishing joint emergency departments with larger populations, leading to an enhancement in experienced healthcare personnel, specialized equipment and the availability of medical specialists. The aim of this study was to investigate the association between length of stay at the hospital after a physical traumatic injury and the reconfiguration of emergency departments.

Methods: The study was conducted as a retrospective cohort study including patients admitted as trauma patients at Hospital of South West Jutland within the Region of Southern Denmark and in the years 2007-2016. Statistical analyses were conducted using multiple linear regressions.

Results: A total of 1693 trauma patients were included, of which 580 patients were admitted before the reconfiguration and 1113 were admitted after. The results showed a beta coefficient of -0.32 with a p-value <0.001 and 95% confidence interval of -0.48 to -0.15, giving a 27.1% decrease in length of stay after the reconfiguration compared to before.

Conclusion: After reconfiguring emergency departments, the length of stay for trauma patients has decreased, suggesting enhanced efficiency and increased the quality of care for trauma patients.

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Low-Dose-Ketamine as an adjunct to morphine for acute pain in the ED: A protocol for a randomized, double-blinded, superiority trial

2022 Vol. 1
DEMC9 abstracts

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Background: Seventy percent of the yearly 1.8 million emergency contacts to the Danish hospitals arrives from patients in pain. Pain management is an essential and challenging part of emergency medicine and ineffective analgesia for patients attending the emergency department (ED) is common and can lead to complications, extended hospital stays and course of illness. Opioid-tolerant patients are an increasing challenge requiring different acute pain management, ie. needing much larger doses of opioids – which for a number of reasons they do not receive. The rising need for opioid sparing treatment and the difficulties in pain treatment of patients with a current use of opioids calls for clinical studies investigating effect and safety of alternatives. Low-Dose-Ketamine (LDK) has been studied as an analgesic and been shown to be useful in the reduction of acute pain in the postoperative setting. This study will evaluate the efficacy and safety of LDK as an adjunct to morphine in the treatment of pain in the ED. Hypothesis: LDK as an adjunct to morphine will be superior to morphine alone as regards of analgesic effect. The combination of morphine and LDK will result in a larger pain reduction in patients with a current use of opioids than patients with no prior use.

Methods: Randomized, double-blinded trial, investigating the combination of LDK and morphine versus IV morphine alone regarding analgesic effect. 152 patients fulfilling all inclusion criteria and no exclusion criteria will be stratified (prior use of opioids and no prior use of opioids) and randomized in a 1:1 ratio in the two groups. Perspectives: This is the first study to examine the effect of LDK as an adjunct to morphine in a general patient population in the ED with pain and to compare it with the effect for patients with a prior use of opioids. This study could present a better pain treatment for patients with and without a prior use of opioids.

Results: Pending – study still running.

Conclusion: Pending – study still running.

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DANSK TIDSSKRIFT FOR AKUTMEDICIN

Photo and video referral in the future Emergency Department?

2022 Vol. 1
DEMC9 abstracts

Ulla Toftkær

Background: In the Danish health system, photo/video contact has been successfully utilized in the telemedicine treatment of patients. In the Sjælland Region patient referrals to the Emergency Department are based on telephone conversations with a Registered Nurse. Holbæk Emergency Department initiated a pilot study in 2019 with the objective of investigating the feasibility and potential of using photo/video as a tool in future referrals. Our hypothesis is that it can improve the referral process.

Methods: The pilot study is retrospective and the approach deductive. The inclusion criteria is patients with lacerations who have been referred to the Emergency Department (ED) from the Acute Phone. 12 patients participated and consented to having photos taken of their laceration on the arrival to the ED. Twenty-five experienced Registered Nurses from the 4 Acute Phone sites in the Sjælland Region participated. The study design is based on a control group and an investigation group. The control group is the 12 patient referrals to the ED based on the conversation on the Acute Phone. The investigation group is the 300 patient referrals provided by the retrospective review of the 12 patient photos by 25 Registered Nurses. In retrospective review the Registered Nurses either refer to the ED or own home treatment. The validation of referral with photo is investigated by measuring the congruity of the referrals in the investigation group. The potential is shown by comparing the referrals in the two groups.

Results: Out of 300 photo referrals, the congruity of the Registered Nurses' referrals shows an agreement of 95% and a deviation of 5%, which shows the validity. 4 out of 12 patients with lacerations would have been referred to home treatment in the investigation group, with a referral agreement of 93%. While all 12 patients as the control group were referred to the Emergency Department.

Conclusion: The results point towards a future process including photo/video contact, which will improve the ability of Registered Nurses' to provide appropriate referral and treatment instructions, and increase the number of patients referred to home treatment. Implementation of video contact on the Acute Phone starting January 2020, rolling out regionally in 2021.

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Reorganisation of emergency departments: From policy to practice

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DEMC9 abstracts

Line Stjernholm Tipsmark

Background: In 2007, a national policy of emergency department reorganisation was announced in Denmark. To obtain the expected benefits of the policy, the policy must be put into practice. The aim of this study is to assess the relation between policy and practice after this policy announcement.

Methods: The study was designed as a cross-sectional study and we conducted a survey across all Danish emergency departments (n=21), to assess the policy implementation from 2007-2017. The questionnaire was answered by executive staff at the EDs (100% response rate). We applied the multi-contingency theory as an analytical framework to classify policy recommendations (specialised equipment, centralisation, multidisciplinary teams, triage, flow coordinator, senior physician, qualification upgrade) according to key organisational design dimensions (strategy, structure, coordination, staff, incentive structure) known to affect patient outcome. The framework further guides our analysis and expectations of the policy implementation process and ED impact.

Results: The implementation rate varied across organisational dimensions: Coordination (multidisciplinary teams, triage, flow coordinator) was first implemented and terminated at the highest rates from 86-100%, whereas the implementation of structure (specialised equipment and centralisation) and staff (senior physicians and qualification upgrade) were more sluggish with implementations rates from 10-76% and 33-90%, respectively. The policy did not adhere to the multi-contingency theory and strategy and incentive structure were identified as missing organisational design dimensions of the policy.

Conclusion: We found hesitant and heterogeneous translation from policy to practice, probably due to cooperation and recruitment challenges. According to our analytical framework, these issues might be caused by a lack of linkage between policy and theory. However, most of the Danish EDs developed new coordination strategies to resolve these issues. Since the policy did not suggest a complete design plan, it is not surprising, that the EDs have tried to develop independent solutions. It also shows that if only a partial design is specified with no time limits, the implementation may take different routes.

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Shock index as a predictor for mortality in trauma patients: a systematic review and meta-analysis

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DEMC9 abstracts

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Background: Traumatic injury accounts for 7.8% of all deaths globally, and 30% to 40% of those deaths are due to hemorrhage. Shock Index (SI) has been found to be useful in the recognition of hemorrhage but no definite threshold for predicting mortality has been determined. Our aim was to determine whether a SI ≥ 1 in adult trauma patients was associated with increased in-hospital mortality compared to a SI < 1.

Methods: We conducted a systematic review and meta-analysis using Preferred Reporting Items for Systematic Reviews and Meta-Analysis guidelines. EMBASE, MEDLINE, and Cochrane Library were searched using controlled vocabulary, and retrospective observational studies were included. Studies were included if they reported in-hospital mortality in trauma patients aged ≥ 16 years, with a measurement of SI from the emergency department or trauma center, dividing patients in groups of SI ≥ 1 and SI < 1. Risk of bias was assessed by using the Newcastle-Ottawa Scale, and the strength and quality of the body of evidence was assessed according to GRADE. Data was pooled using a random effects model.

Results: We screened 1239 citations with an inter-rater reliability (Cohen's kappa) of 0.90 (95% CI 0.88-0.93). Thirteen comparative cohort studies including 639210 patients were included. All studies reported a significant higher in-hospital mortality in adult trauma patients with a SI ≥ 1 compared to those having a SI < 1 at first assessment in the emergency department or trauma center. Eleven studies were included in the meta-analysis. The pooled risk ratio (RR) of in-hospital mortality was RR 4.29 (95% confidence interval 3.00 - 6.12). The overall quality of evidence was low.

Conclusion: This systematic review found a fourfold risk of in-hospital mortality in adult trauma patients with an initial SI ≥ 1 in the emergency department or trauma center.

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The impact of using presenting complaints on a modern 5-level triage system – a Danish cohort study

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Background: Five-level triage systems are being utilized in Danish emergency departments with and without the use of presenting complaints. The aim of this study was to validate and compare two 5-level triage systems used in Danish emergency departments: "Danish Emergency Process Triage" (DEPT) based on vital signs and presenting complaints and a locally adapted version of DEPT (VITAL-TRIAGE) using vital signs only.

Methods: This was a retrospective cohort in five Danish emergency departments. All patients attending an emergency department during the period of 1-4-2012 until 31-12-2015 were included. Validity of the two triagesystems were assessed by comparing urgency categories determined by each triagesystem with outcomes that resembles an urgent hospitalization: 24-hour ICU admission, two-day mortality, critical illness, surgery within 48 hours, 4-hour discharge and length of stay.

Results We included 632,196 patients in the analysis. Sensitivity for 24-hour ICU admission was 0.79 (CI 0.78 : 0.80) for DEPT and 0.44 (CI 0.41 : 0.47) for VITAL-TRIAGE. The sensitivity for two-day mortality was 0.69 (CI 0.67 : 0.70) for DEPT and 0.37 (CI 0.34 : 0.41) for VITAL-TRIAGE. The sensitivity to detect diagnoses of critical illness were 0.48 (CI 0.47 : 0.50) for DEPT and 0.09 (CI 0.08 : 0.10) for VITAL-TRIAGE. The sensitivity for predicting surgery within 48 hours was 0.30 (CI 0.30 : 0.31) in DEPT and 0.04 (CI 0.04 : 0.04) in VITAL-TRIAGE. Length of stay were longer in VITAL-TRIAGE than DEPT. The sensitivity of DEPT to predict patients discharged within 4 hours was 0.91 (CI 0.91 : 0.92) while VITAL-TRIAGE was higher at 0.99 (CI 0.99 : 0.99). The odds ratio for 24-hour ICU admission and two-day mortality was increased in high-urgency categories of both triage systems compared to low-urgency categories.

Conclusion: High urgency categories in both triagesystem are associated with adverse outcomes. The inclusion of presenting complaints in a modern 5 level triage system led to significantly higher sensitivity measures for the ability to predict outcomes related to patient urgency.

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DANSK TIDSSKRIFT FOR AKUTMEDICIN

Work environment in emergency medicine needs to be improved

2022 Vol. 1
DEMC9 abstracts

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Background: Emergency medicine (EM) is a novel specialty in Denmark. So far there are only 111 board certified specialists in EM in Denmark ~5 per Emergency department (ED). We hypothesize that stressful ED work environment may impact EM recruitment. The aim of our analysis was to evaluate the rate of applicants for EM junior and senior residency and relate it to ED patient complaint rate and work environment.

Methods: We evaluated EM junior residency applications; and we calculated the rate of unfilled versus posted EM senior residency appointments In Denmark in 2020. As received by The Danish Agency for Patient Complaints we compared complaints from patients received over a 3-year period for EM, Respiratory medicine (RM), Cardiology (Card) and Endocrinology (Endo). One-way analysis of variance was performed to assess overall significance which was followed by a Tukey studentized range test procedure to locate the possible differences. We anonymously asked affiliated EM junior residents to qualify the reason for their application and whether they intend to apply for senior residency.

Results We found a surplus of EM junior residency applications. Thus, positions were easily filled. Conversely unfilled senior EM residency appointments in Denmark amounted to 31 out of 52 posted appointments, meaning that 59% of EM senior residency appointments were unfilled. Patient complaints amounted to (means±SEM) EM 333±55; RM 88±9; Card 113±17; Endo 58±8, meaning a 3 to 5fold higher patient complaint rate in EM ($p < 0.0006$). There were no statistical differences in patient complaints among RM, Card and Endo. Among 8 EM junior residents 63% expressed interest in an EM career as the reason for their application but following EM experience none intended to apply for senior residency.

Conclusion: More than half of posted senior residency positions in EM remain vacant. Patient complaints are significantly frequent in EM compared to other medical specialties. Junior residents are reluctant to pursue senior residency. Stressful ED working environment needs to be improved to facilitate EM recruitment.

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