

MEDUCATE

EM

ANNUAL SCIENTIFIC MEETING

April 24th



Poster Presentation Booklet

#IEMTA21



MEDUCATE EM

ANNUAL SCIENTIFIC MEETING
April 24th



Poster No.	Title	Presenter	Hospital
1	An audit of the management of paracetamol overdose in a large urban Emergency Department	Dr Barry Keane	STJH
2	SVUH Emergency Department compliance with the Ottawa Rules when requesting radiographs for ankle injuries	Dr Eoghan Mulqueen	SVUH
3	Hyponatremic seizures and tap water enema: a case report	Dr Qurratulain Fatimah	UHG
4	Case report of a 6 year old boy presenting to the paediatric Emergency Department with an increasingly ataxic gait over a 2 week period	Dr Joseph Slowey	CUH
5	Sepsis protocol compliance in St Vincent's Emergency Department	Dr Izabella K Orban	SVUH
6	Referral of patients with papilloedema to St Vincent's Hospital (SVUH) Emergency Department (ED) from Jan 2019 - Jan 2021	Dr Matthew Casey	SVUH
7	Pain management in the Emergency Department of Midlands Regional Hospital Tullamore	Dr Sune Naude-Sales	MRHT
8	Think Aorta	Dr Durriya Kazi	MRHT
9	Emergency department imaging protocol for suspected acute renal colic: Clinical Audit	Dr Khidir Babikir	SUH (Sligo)
10	An unusual presentation of Cardiac tamponade related to Covid-19	Dr Gary Hagan	Altnagelvin Emergency Department Derry
11	Fatal arrhythmias and tumour lysis syndrome in the emergency department	Dr Moussa Issa	MRHT
12	Recognition and management of anaphylaxis in primary and secondary school	Dr Babar Ali	MRHT
13	The Effect of the Covid-19 pandemic on sore throat presentations to the Emergency Department	Dr Conor Prendergast	SVUH
14	"Did they really Knee-ED that x-ray?" – Compliance with the Ottawa Knee Rule in an Irish Emergency Department.	Dr James Elliot Hanratty	MRHT
15	Hard to diagnose something you have not seen before – a case presentation	Dr Izabella K Orban	SVUH

MEDUCATE EM

ANNUAL SCIENTIFIC MEETING
April 24th



Poster No.	Title	Presenter	Hospital
16	Utilising Silo for acute orthopaedic referrals during Covid-19 at a University Teaching Hospital	Dr Waslat Bakhshi	SUH
17	Acute epididymo-orchitis. Are we investigating patients appropriately?	Dr Wed Al Attas	SVUH
18	Burn Voyage to the lecture theatre	Dr. Jessica O'Connell	SUH
19	An unusual case of retroperitoneal bleeding	Dr Omotayo Jubril Raji	MRHT
20	An Audit Loop Evaluating Post Procedural Sedation Care in the Emergency Department	Dr Enda Hession	SVUH
21	Pseudoaneurysm as a complication of neck of femur fracture	Dr Ahmed Ahmed	SUH
22	Bronchiolitis Management In Admitted Paediatric Patients In A University Teaching Hospital – Winter 2019	Dr Cathal de Buitleur	SUH
23	Interesting case of bilateral hip dislocation without fracture following a road traffic accident	Dr Shona Keogh	TUH (Tallaght)
24	Use of GoPro cameras for simulation recording and debriefing in the Emergency Department	Dr James Foley	SVUH
25	Improvement in management of patients with suspected cervical-spine injury in the Emergency Department	Dr Zohaib Hassan	LUH (limerick)
26	An Audit of the management of Acute Asthma Exacerbation presentations in an Adult Emergency Department	Dr Carla Hopper	TUH
27	Fascia Iliaca Block Documentation in the Emergency Department and the Challenge of a Pandemic	Dr Jennifer Allen	SVUH
28	Submerged in Diesel – A Case Report	Dr Abdul Safras	TUH

MEDUCATE EM

ANNUAL SCIENTIFIC MEETING

April 24th



Poster No.	Title	Presenter	Hospital
29	Accidental & Intentional Overdoses At A Paediatric Emergency Dept: A Quality Improvement Project	Dr Stephen G Sheridan	MRHP (Portlaoise)
30	Major Trauma Management Training, the Missing Piece in Paediatric Hospitals. Are Paediatric Hospital Staff Confident in Major Trauma Assessment? A quality improvement project focused on improving staff confidence.	Dr Carl Byrne	CHI at Temple Street
31	Descending Mediastinitis: A Case Report	Dr Neil Kearney	TUH

1. Introduction

Paracetamol overdose is a common presentation to the Emergency Department. 10,985 presentations with paracetamol overdose were recorded in Ireland between 2007 and 2018.¹ When used at the recommended dose, paracetamol is an effective analgesic with few side effects. At doses above that recommended, liver injury can occur. This can be prevented by prompt identification, and treatment with N-acetyl-cysteine. Guidelines for the management of paracetamol overdose are available from the National Poisons Information Service via [toxbase.org](https://www.toxbase.org).²

2. Aims

To compare the management of patients presenting with paracetamol overdose to St James' Emergency Department against the expected standard management.²

3. Methods

We conducted a retrospective audit of patients presenting to our ED in the first 6 months of 2020. The Emergency Department's (ED's) database was interrogated for patients presenting with "overdose and poisoning" mentioned in their triage notes. These ED patients notes were then analysed to select out those presenting with overdose which included paracetamol. We then compared the management these patients received and compared it to the standards expected, ie a paracetamol level at 4 hours from ingestion, coagulation screen, renal profile, liver function tests (LFTs), blood gas sampling, and commencement of N-acetyl-cysteine (NAC) within 8 hours of ingestion, if indicated. We also audited whether patients were referred to the psychiatry team on-call, regardless of need for medical admission.

4. Results

A total of 308 patients presented to the department with a triage note of "overdose and poisoning". 83 of these patients had taken paracetamol as a drug of overdose. These patients were further subdivided into time of ingestion as follows: less than 8 hours, between 8-24 hours and greater than 24 hours. 67 patients presented less than 8 hours after ingestion, 14 presented between 8-24 hours after ingestion and 2 patients presented after greater than 24 hours had elapsed post overdose. In the < 8 hour group, 66% had a paracetamol level at 4 hours post ingestion, 97% had LFTs, 78% had a coagulation screen, 81% had a blood gas, 96% had a psychiatry referral made, and 82% met guidelines for starting NAC (Fig 2). In the 8-24 hours group, the results were 100%, 79%, 86%, 86%, and 100% respectively as above (Fig 3). In the greater than 24 hours group, 100%, 100%, 50%, 100% and 100% respectively as above (Fig 4). Overall compliance with all the components of this audit in total was 61% (Fig 5).

5. Discussion

The expected standard management of paracetamol overdose starts with appropriately identifying the amount of the drug taken, and the time of the ingestion.² Required investigations include a 4 hour paracetamol level, liver function tests, coagulation screen, blood gas sampling and renal function tests. We have identified both areas of strength and weakness in this audit. Taking LFTs, referral to psychiatry and commencement of NAC is good, however, there is improvement needed in obtaining 4 hour paracetamol levels, coagulation screens and blood gases. The 4 hour paracetamol level is of vital importance in guiding commencement of NAC, which must be commenced within 8 hours of ingestion of paracetamol where possible. The coagulation screen is also of particular importance as it is an important marker of liver synthetic function. Patients with paracetamol overdose who are not treated promptly and appropriately may suffer significant morbidity and mortality. This audit highlights a quality improvement opportunity in the department which could significantly impact our management of paracetamol overdose in a positive way.

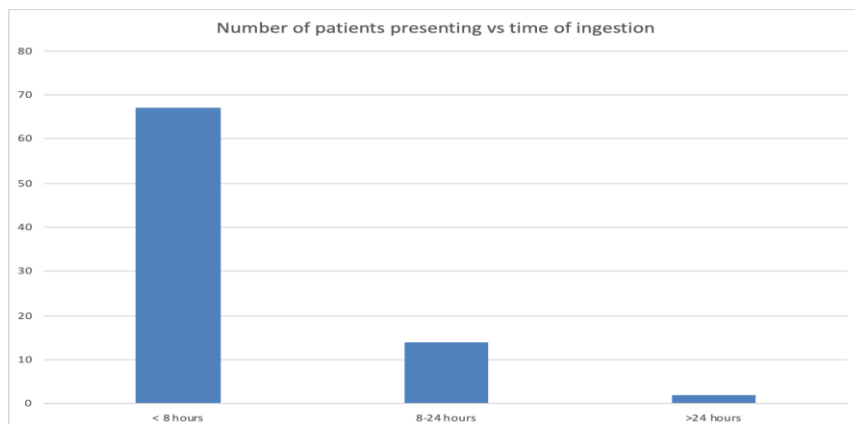


Figure 1

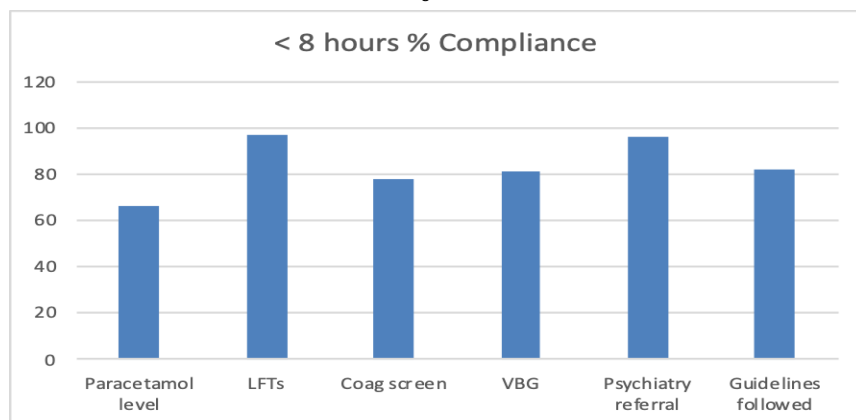


Figure 2.

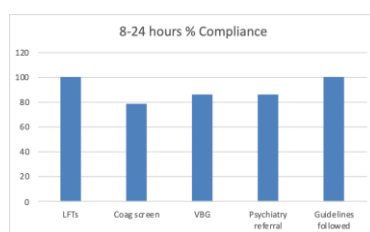


Figure 3

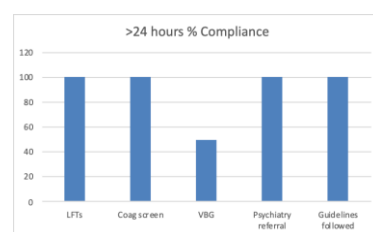


Figure 4



Figure 5

6. Conclusion

The current management of paracetamol overdose in St James' Emergency Department is good overall. The main goals for improvement are; obtaining a 4 hour paracetamol level, coagulation screen and blood gas.

References

1. Daly C, Griffin E, McMahon E, Corcoran P, Webb RT, Ashcroft DM, Arensman E. Paracetamol-related intentional drug overdose among young people: a national registry study of characteristics, incidence and trends, 2007-2018. Soc Psychiatry Psychiatr Epidemiol. 2020 Nov 4. doi: 10.1007/s00127-020-01981-y
2. <https://www.toxbase.org/poisons-index-a-z/p-products/paracetamol>



SVUH Emergency Department Compliance with Ottawa Rules on Requesting Radiographs for Ankle Injuries

Eoghan Mulqueen, Dr Rosa McNamara, Dr Matthew Cosgrave
eoghan.mulqueen@ucdconnect.ie



Background

To assess if the Ottawa Rules are being utilized in SVUH Emergency Dept when ordering radiographs for presenting ankle injuries

Aims/Objectives

By ensuring adherence to Ottawa Ankle Rules there is potential to reduce unnecessary ankle radiographs

Methodology

A retrospective data collection of patients presenting to SVUH ED in July 2020. The first 50 patients presenting with an ankle injury and having received radiological investigation were included. Data was gathered using MAXIMS system for ED notes and Syngo for Radiology reports. Tool used for compiling data was Microsoft Excel.

Results

N=50

13 (26%) identified Ottawa Positive cases, 4 diagnosed with a fracture and 9 without.
37 (74%) identified Ottawa Negative cases, 10 diagnosed with fracture and 27 without

PPV = 31% (4/13)

NPV = 73% (27/37)

Conclusions

- Ottawa Ankle Rules have a much higher NPV (73%) than PPV (31%)
- 36/50 (72%) of ankle X-rays performed resulted in no bone pathology or fracture.
- Ottawa Ankle Rules are best used with clinical judgement and may be more helpful in pre-hospital setting than in Emergency Department
- Encourage Documentation of indication of X-Ray in both patient notes and X-Ray requests

Ottawa Ankle Rules

Lateral view

Medial view

A series of ankle x-ray films is required only if there is any pain in malleolar zone and any of these findings:

- Bone tenderness at **A**
- Bone tenderness at **B**
- Inability to bear weight both immediately and in emergency department

A series of [foot] x-ray films is required only if there is any pain in mid-foot zone and any of these findings:

- Bone tenderness at **C**
- Bone tenderness at **D**
- Inability to bear weight both immediately and in emergency department



Dr Qurratalain Fatimah¹, Dr Abdul Safras², Mr John J O'Donnell³

¹ NCHD at Emergency Department, Galway University Hospital

²SpR in Emergency Medicine, Tallaght University Hospital

³ Consultant in Emergency Medicine, Galway University Hospital

INTRODUCTION

While many known causes of seizure activity exist, we examined this case as an unlikely, lesser-known cause of seizure like activity, which was triggered by self-administration of tap water enemas for relief from migraine headache.

CONCLUSION

This was an interesting case of a novel cause of seizure onset following self administration of water via enema for migraine relief. Our patient had been self-administering water enemas for more than 25 years without any major side effect.

CASE

A 43-year-old male was brought in by ambulance found collapsed following generalized tonic clonic seizures, witnessed by his partner. The patient had a Past history of migraine for which he took tap water enema as a natural pain relief frequently, with no history of epilepsy.

On arrival his GCS was 7/15 and was agitated. The initial blood gas showed a low sodium of 105 (normal 135meq/L – 145 meq/L). ABCDE management and initial resuscitation with hypertonic saline was commenced in the ED. The patient then was admitted to ICU, and commenced on a tapering dose of levitriacetam, and later on discharged back home.



LEARNING POINTS:

IDENTIFYING UNUSUAL CAUSES OF SEIZURE LIKE ACTIVITY IN NON-EPILEPTIC PATIENTS

OBTAINING A DETAILED HISTORY TO HELP MAKE DIAGNOSIS PROMPTLY, TO BETTER GUIDE MANAGEMENT

BEING PREPARED TO MANAGE PATIENT PRESENTATIONS ACCORDING TO SEVERITY

EARLY CRITICAL CARE INVOLVEMENT

Case summary

A 6 year old boy presented with a two week history of ataxia, intermittent visual disturbances and recurrent falls. Clinical examination was unremarkable with a normal neurological exam, including no ataxia at the time of assessment. Investigations including routine blood tests and a non contrast CT Brain were normal. A Covid-19 PCR surveillance swab however tested positive.

Methods

A chronological, retrospective clinical case study was performed. Permission was sought from the patient's next of kin with the case anonymised to protect their identity.

Inpatient Investigations

Inpatient MRI brain revealed a right inferior parietal cortical infarct and left superior pontine punctate infarct, however a CT carotid and vertebral angiogram was negative for arterial dissection. In light of the positive Covid -19 swab, a working diagnosis of covid-19 vasculopathy was made.

Initial treatment

Therapeutic anticoagulation was commenced after a metabolic and autoantibody screen provided negative results. Cardiac Echocardiogram was normal. The patient was discharged on therapeutic tinzaparin after 4 days.

Repeat presentation

He re-presented 3 weeks later with worsening symptoms, including dizziness, nausea and unsteady gait. He now admitted to a headache and neck pain that was present during his first admission. Cerebral angiography was undertaken with parental consent and revealed a right sided vertebral artery dissection with a subacute thrombus. Although there is no evidence of significant trauma, a detailed history revealed regular trampoline use, including vigorous somersaults and front flips.



Discussion:

Vertebral artery dissection typically presents 12-24 hours after trampoline injury. Abrupt hyperextension and rotation is the proposed mechanism for vessel injury, with subsequent intramural thrombus leading to embolic ischemic events. However, this child's diagnosis was delayed due to confirmation bias. In medical decision making, this is the tendency to give greater weight to data that supports a preliminary diagnosis, while failing to seek or dismissing contradictory evidence. Initiatives to prevent this phenomenon in Emergency Departments will improve patient safety.

References:

- 1: Dirk M, Elson MD. Confirmation bias in medical decision making. JAAD [internet]. 2019 July [cited 2021 April 18]. Available from: [https://www.jaad.org/article/S0190-9622\(19\)32285-6/fulltext](https://www.jaad.org/article/S0190-9622(19)32285-6/fulltext)
- 2: Casserly, CS1, Lim RK, Prasad AN. Vertebral artery dissection causing stroke after trampoline use. Pediatr Emerg care. 2015 Nov; 31 (11): 771-3

Introduction

Sepsis is a life-threatening organ dysfunction caused by a dysregulated host response to infection. It is a leading cause of in-hospital patient deterioration, unanticipated ICU admission and in-hospital cardiac arrest.

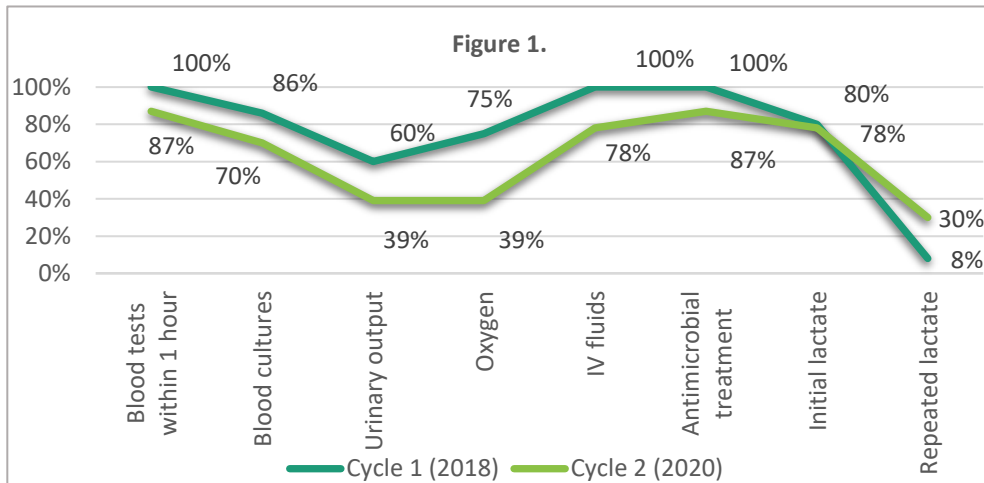
In 2018 the Sepsis screening form (two page document) was introduced in Ireland with mandatory training for all NCHD's and nursing staff to help clinicians in recognition and management of sepsis. The first page helps identify patient's at risk of developing sepsis according to their vital signs and past medical history. The second page contains the steps in the sepsis management. The aim of the audit was to evaluate the Emergency Department's compliance in St Vincent's University Hospital with the national Sepsis Guidelines and Sepsis screening tool since introduced in 2018.

Methods

Retrospective audit, the first cycle (C1) was conducted in 2018, the second cycle was performed during the COVID-19 pandemic in 2020. Data was collected selecting three random days in September 2018 and 2020, using MAXIMS, patient's ED card which were entered in a Microsoft Excel sheet and compared with the Sepsis screening tool. Correct management of sepsis includes "take three: taking blood cultures, blood tests (FBC, U&E, LFT's, coagulation profile and point of care lactate with assessing the urinary output. Give three: oxygen, intravenous fluids and antimicrobials. Suspected sepsis is defined as meeting the criteria on the sepsis form at the first encounter of the patient.

Results

The prevalence of sepsis was 3% in C1, 4.76% in C2. The sepsis form was used in 8% in C1 and it was used 0/23 during C2. 14 out of 15 cases were confirmed sepsis in C1 and 21 out of 23 cases in C2. 50% of the cases in C1 were patients with systemic inflammatory response plus ≥ 1 co-morbidities. In C2 Respiratory sepsis was the most common source of infection in both cycles.



Conclusions

1. There is a low observed rate of compliance with use of a sepsis screening form for patients with suspected sepsis. This is likely confounded by a move to electronic healthcare records during the Covid pandemic.
2. The management of patients with suspected sepsis is started on time but there is a delay in administering antibiotics and fluids.
3. Due to COVID-19 and infection control some results (eg. venous blood gas) were not retrievable.

References

1. The prevalence of severe sepsis or septic shock in an Irish Emergency Department IMJ
2. Seeking sepsis in the Emergency Department - identifying barriers to delivery of sepsis 6 BMJ
3. Sepsis management national clinical guideline No. 6, HSE

Papilloedema referrals to SVUH Emergency Dept

Casey, M. Fitzpatrick, G.

Background

Each year, a number of patients are referred to the Emergency Dept by optometrists and ophthalmologists with the clinical finding of papilloedema.

This audit aimed to investigate how many patients presented to SVUH ED in this fashion over a two year timespan. It also aimed to determine how long these patients spent in the dept, what investigations they underwent and what proportion of them were admitted as inpatients.



Method

Electronic patient records were screened by using relevant search terms: 'papilloedema' 'optic' 'neuritis' 'ophthalmologist' etc.

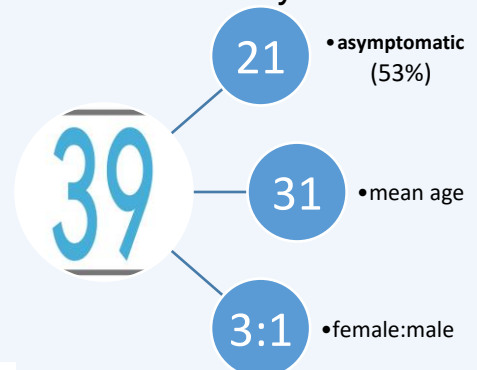
The time frame for the search was two years, Jan 2019 - Jan 2021.

Each search result was reviewed to find our specific cohort - patients referred with findings of papilloedema. These records were then investigated for pertinent data - age, sex, presenting complaint, etc.

The progress of each patient through the ED was examined, to answer a set of specific questions on their treatment - length of stay in ED, imaging performed, whether admitted or discharged.

Results

39 patients were referred to the ED with papilloedema over two years:



Average length of stay in ED: **11.1 hours**



33 patients had CT brain
-1 finding of brain lesion



23 patients admitted



3.65 days average stay

-16 had MRI

-13 had LP

-19 had inpatient neuro review

Conclusion

A not insignificant amount of patients are referred to the emergency dept with the (often incidental) finding of papilloedema.

This audit will inform discussion between the emergency, AMU and neurology teams in SVUH with the aim of developing an effective referral pathway for these patients.

This will aim to reduce patient length of stay in the ED and improve patient outcomes.

Pain Management in the Emergency Department of Midland Regional Hospital Tullamore

Dr M. Issa, Dr S. Naude-Sales

Background

Pain is one of the most common causes for presentation to the Emergency Department.

The Royal College of Emergency Medicine (RCEM) has published specific guidelines for the assessment and management of pain.

We wanted to assess the compliance of our triage unit with the recommendations of the RCEM and to attempt to find and / or remedy any areas of weakness that we may find.

Methodology

Due to the wide variance of symptoms triaged as "pain" we decided to narrow our audit to specifically look at back pain, also very prevalent. All patients who presented with back pain between 03/11/2020 and 15/11/2020 were selected and these 41 patients' ED files were assessed with regards to triage assessment, doctor's assessment as well as the interventions used to manage pain.

Discussion

Our documentation of pain scores were poor, but where pain scores were documented, recognised pain scores were used.

We may still improve on the time it takes until patients receive their first dose of analgesia.

Formal re-evaluation and documenting decisions regarding additional pain relief needs to be emphasized.

What's Next

Our ED is currently trialing a rapid assessment triage which may improve outcomes, and the outcome of this audit will be discussed with our department. Thereafter this audit will be repeated.

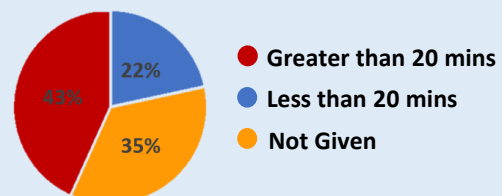
Objectives

We posed 3 questions.

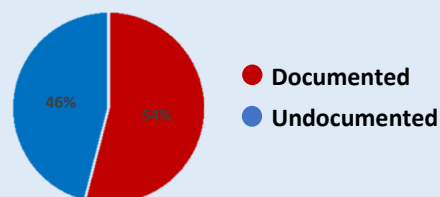
1. Was pain being quantified and documented using recognised pain scales?
2. Were we managing the pain in accordance with the existing RCEM guidelines?
3. And were we re-evaluating the patient's pain after our interventions?

Results

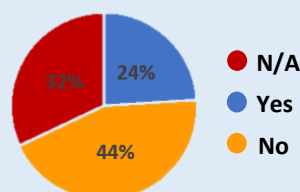
1. 54% had a documented pain score at triage (Fig. 1)
2. 22% received analgesia within 20 minutes of presentation as recommended by RCEM
3. Only 24% had their pain reassessed, despite 27% receiving further analgesia



(Fig. 1): Time from triage to analgesia



(Fig. 2): Patients Pain score is documented



(Fig. 3): Patient's Pain score is reassessed

Think Aorta!

D Kazi, M Issa, T Olukunle Popoola

INTRODUCTION

Aortic dissection (AD) is rare and very fatal. Mortality rate is 1-2% per hour¹ and its incidence is estimated at 2.6-3.5 per 100,000 persons per year².

CASE

A 32-year old gentleman presented to the Emergency Department (ED) with a week history of pleuritic chest pain. Pain was sharp, severe and radiating to his inter-scapular area and right shoulder. His pain was out of proportion to his physical examination. His BP was 152/94 mmHg. Other vital signs were normal. His ECG showed sinus tachycardia of 103bpm. CXR was normal. Laboratory investigations showed elevated inflammatory markers, elevated d-dimer of >2000 and normal troponin. ABG was normal. Differentials considered included PE, aortic dissection, pericarditis and ACS. He had a background history of AV repair in 2010 and recently diagnosed with a genetic condition but he could not remember the name.

His parents later confirmed the condition to be Marfan syndrome. This further buttressed our suspicion of aortic dissection. A CT angiogram done showed extensive aortic dissection involving the thoracic aorta and abdominal aorta consistent with Type III DeBakey Aortic Dissection (Stanford Type B Dissection) – Figure 1 shows radiological appearance of different types of dissection.

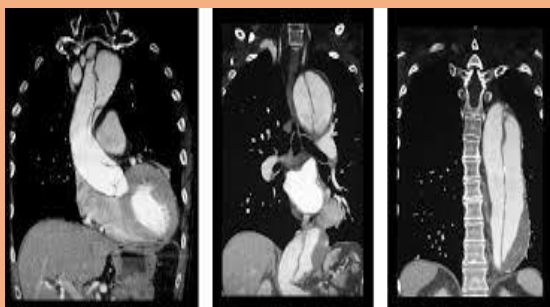


Figure 1

He was commenced on intravenous opioids and labetalol infusion but his pain did not settle. He was then referred to the cardiothoracic team at Mater Hospital. A repeat CT angiogram done 48 hours later showed stable appearance of the aortic dissection. He remained stable, all symptoms resolved and he was discharged home after one week of admission.

DISCUSSION

AD occurs following a tear in aortic wall intima, causing blood flow into a new false channel composed of the inner and outer layers of the media³. It can be rapidly fatal, with many patients dying before presentation to the ED or before diagnosis is made in the ED⁴. It is commonly classified according to Stanford (types A & B) and DeBakey (types I, II & III) classifications—Figure 2.

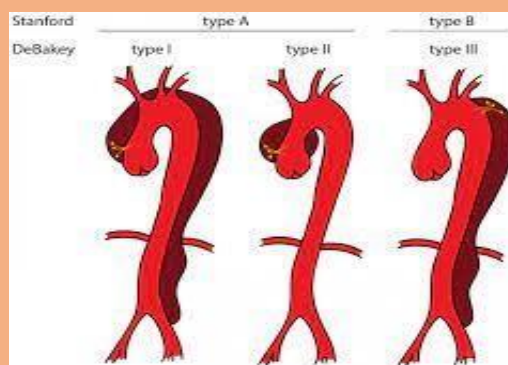


Figure 2

The most common symptom is pain which is usually of abrupt onset, sharp and tearing. The diagnosis requires a high index of suspicion and involves adequate history and physical examination, imaging studies, ECG and relevant laboratory studies.

CONCLUSION

This case highlights the importance of taking adequate history, doing a thorough examination and having a high index of suspicion in a patient with unexplained symptoms. It also highlights the importance of adequate pain control and BP management in a patient with suspected or confirmed AD and the need for early and urgent referral to a cardiothoracic specialist.

REFERENCES

1. Akin I, Nienaber CA Prediction of aortic dissection *Heart* 2020;**106**:870-871
2. Clouse WD, Hallett JW Jr et al. Acute aortic dissection: population-based incidence compared with degenerative aortic aneurysm rupture. *Mayo Clin Proc.* 2004 Feb;79(2):176-80. doi: 10.4065/79.2.176. PMID: 14959911.
3. <https://bestpractice.bmj.com/topics/en-gb/445/pdf/445/Aortic%20dissection.pdf>
4. [Aortic Dissection: Practice Essentials, Background, Anatomy \(medscape.com\)](https://www.medscape.com/viewarticle/944445)

Elkhidir Babikir, Áine Mitchell

Objectives: The objective of this study is to evaluate our emergency department protocol for patients presenting with suspected acute renal colic and evaluate the use of unenhanced CT renal tract (CT KUB) performed in the emergency department (ED) at our institution.

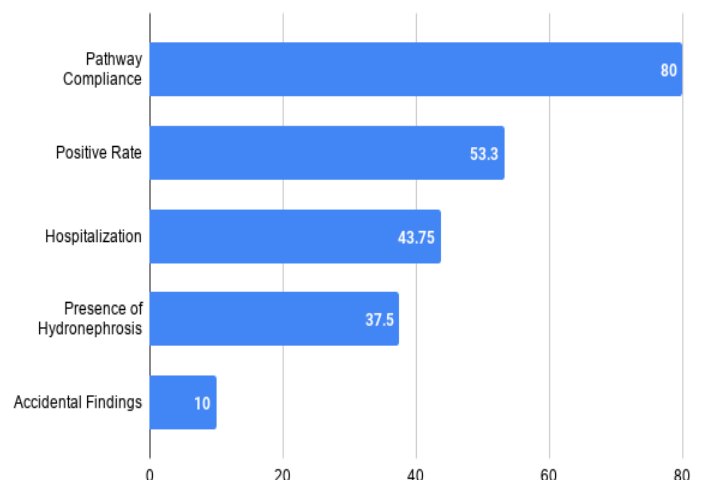
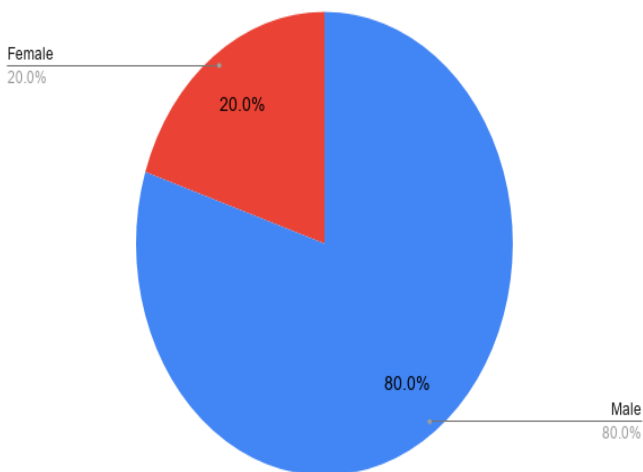
Methodology: A retrospective review of 30 consecutive cases between December 2020 and January 2021 admitted to the ED in Sligo University Hospital and investigated with CT KUB.

Results: The positive rate for urolithiasis was 53.3% and the rate of other significant findings was 10%. Female patients had a significantly lower positive rate than male patients (16.6% vs 66.6%, $p < 0.0001$). Hospital admission was required in 43.75%, 71.42% of them required urological intervention. Hydronephrosis was present in 37.5%.

Conclusion: Contrary to other studies there has been no "indication creep" in the use of CT KUB at our institution. However, the young female patient presenting with suspected urolithiasis presents a particular diagnostic problem, and the significant percentage of negative examinations in females implies that an improvement in current practice is needed. The indiscriminate use of CT KUB in all female patients with flank pain should be avoided, and it is suggested that they should be initially evaluated with ultrasound to detect the presence of hydronephrosis.

Recommendations: We recommend utilizing ultrasound as an alternative imaging method to minimise unnecessary radiation exposure and cost especially in young female patients. Bedside ultrasound can be potentially used as an important tool in detecting clinically significant hydronephrosis. Focused training in ultrasound could greatly improve the emergency management of these patients.

*Gender based positive rate



An Unusual Presentation of Cardiac Tamponade Related to Covid-19



Dr Gary Hagan, Dr Niall Hagan, Dr John Devlin
Emergency Department, Altnagelvin Area Hospital



Background

Cardiac tamponades are rare, particularly with relation to SARS-CoV-2 and as a result are at high risk of being missed. The objective of this poster is to highlight this unusual presentation to help avoid incorrect diagnosis.

Cardiac tamponade results due to an accumulation of pericardial fluid. This raises intrapericardial pressure resulting in poor ventricular filling and a fall in cardiac output.¹

Clinical Presentation

A 40 year old lady presented with palpitations, increasing shortness of breath and a feeling of heaviness in the chest. She had tested positive for Covid-19 2 days prior to presentation, but was otherwise fit and well with no previous medical problems.

She looked unwell from the end of the bed. She was pale and diaphoretic.

A – Patent

B – RR 28 SaO₂ 96%

Good air entry bilaterally

C – HR160 -180. Muffled heart sounds

BP 102/70

JVP elevated

D – GCS 15/15

PEARL

E – Temp 37.0

Patient had features of **obstructive shock** – Tachycardia, Hypotension, Raised JVP.

She also had features of **Beck's Triad** – Muffled heart sounds, hypotension and distension of jugular veins.

Investigations

ECG – Fast AF HR 165

Bedside ECHO – Pericardial effusion noted.
Bowing of interventricular septum.

Bloods:

Hb 137 Plat 138 Wcc 7.68

Na137 K 4.4 U 7.1 Cr 68 eGFR >60

CRP 10.2

Tnt 390

D dimer 1.36

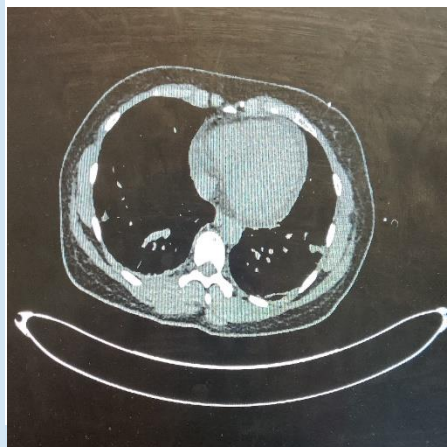
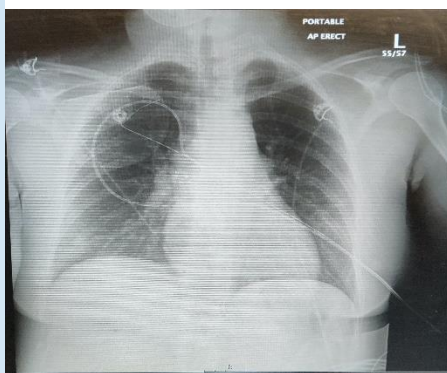
Bil 10 Alk 40 AST 2693 ALT 2803 GGT 37

Alb 17

Arterial Gas:

pH 7.24 pO₂ 10 pCo₂ 3.5 HCO₃ 25 Lactate 11

She was diagnosed with a 1.5cm pericardial effusion following CT imaging. This was secondary to Covid-19 related myopericarditis.



Management

This patient had pericardiocentesis performed, draining 1000ml of serous fluid.² Dexamethasone and Remdesivir were also given as treatments of Covid-19.³

The patient was admitted under the care of the cardiology team.

Outcome

The patient was discharged from hospital 5 days later and had a subsequent echocardiogram showing impaired left ventricular systolic function with an Ejection Fraction between 35-40%.

Conclusion

Clinicians should remain alert to the possibility of Myopericarditis and Cardiac Tamponade as a rare complication of Covid 19. Early recognition and definitive treatment with pericardiocentesis can significantly reduce mortality for patients who have the risk factors identified.

References

- 1) Oxford Handbook of Clinical Medicine Ian B Wilkinson et al.
- 2) Emergency Pericardiocentesis Michael T. Fitch et al. N Engl J Med 2012; 366:e17 DOI: 10.1056/NEJMvcm0907841
- 3) Dexamethasone in Hospitalized Patients with Covid-19 .The RECOVERY Collaborative Group. N Engl J Med 2021; 384:693-704 DOI: 10.1056/NEJMoa2021436

Fatal arrhythmias and tumour lysis syndrome in the Emergency Department

Issa M., Kazi D., Poopola T.

Introduction

Fatal arrhythmias are frequently encountered in our emergency departments. Facing any patient with a history of malignancy who has recently initiated chemoprophylaxis, one should always consider the possibility of tumour lysis syndrome (TLS). A TLS is a common oncological emergency [1] usually occurring shortly after the start of chemotherapy. Most commonly, this disease manifests as hypocalcaemia, hyperphosphatemia, hyperuricaemia, and hyperkalaemia which can lead to acute kidney injury (AKI) and cardiac arrhythmias and lead to death [2].

Nowadays, diagnostic confirmation of TLS is facilitated by the Cairo-Bishop classification [3] based on clinical signs and laboratory results. Since TLS can quickly lead to death, emergency room physicians must be sufficiently trained to diagnose this condition and not focus on electrolyte disturbances alone and lose sight of an underlying condition requiring rapid and effective specific management. We present here the case of a TLS patient who would have preferred to omit some of his medical histories in the emergency room.

Case Report

A 66-year-old gentleman presented to our emergency department (ED) with a history of acute onset shortness of breath and fever. He would have denied any other serious pathology but vaguely admits having visited the hospital the morning of the same day and that his blood test was abnormal (Hb of 9.4 g/dl), he had to return the following day for a blood transfusion. On examination, the patient had tachycardia and tachypnoea and required more oxygen to maintain saturation. Chest examination reveals bilateral expiratory wheezing on auscultation. His initial ECG showed a large QRS complex, high T waves with a sinusoidal pattern (Figure 1). His initial arterial blood gas (ABG) showed potassium of 8.7 mmol/L. His serum investigations reported urea of 8.9 mmol/L, creatinine of 126 µmol/L and K+ of 8.5 mmol/L, and LDH of 1856 U/L and uric acid of 461 µmol/L.

The patient was immediately moved to the resuscitation area where he initially received 20% IV dextrose and 10 units of Actrapid with a back-to-back salbutamol nebulizer to control the potassium disturbance; followed by an infusion of Calcium Gluconate 10 ml for cardiac stability. IV piperacillin-tazobactam and IV hydrocortisone were started for probable sepsis. Despite this treatment, his repeated ABG showed a worsening of pH of 7.27 and K+ of 8.4 mmol/L. The above picture appeared very confused for simple anaemia; the senior emergency doctor decides to contact another family member for further questioning. The wife acknowledged that the patient was diagnosed with chronic lymphocytic leukaemia (CLL) a few months earlier but failed any initial oncologic management. He would therefore have been put on a BCL2 inhibitor (Venetoclax) that morning during his visit to the oncology department. Considering the electrolyte disturbance associated with the severe arrhythmia, its history of CLL and a recent start of chemotherapy, the diagnosis of TLS was declared.

The haematology, nephrology and general medicine team were on board for multidisciplinary care. The decision was quickly made to admit the patient to intensive care and to consider immediate haemodialysis. Post-dialysis blood showed a K+ of 5.7 mmol/L and the ECG returned to baseline left bundle branch block (LBBB). The patient remained in the hospital in the ICU for 2 days, and after hemodynamic stabilization, he was transferred to the general admission ward and sent home a few days later. A few weeks later, the patient was readmitted to the day room with bilateral pleural effusion and secondary lung infection. The patient still attends the oncology department for treatment.

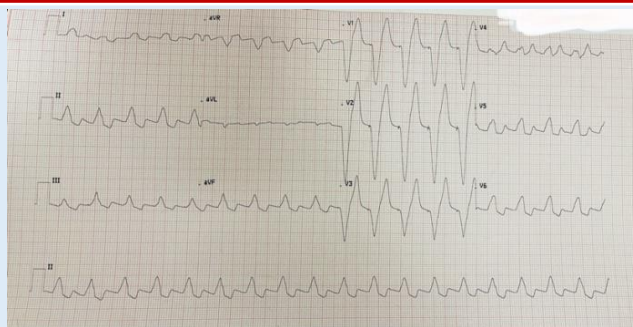


Figure 1. ECG showing Hyperkalaemia

Discussion

With tumour lysis syndrome (TLS), the patient experiences a release into the systemic circulation of the contents of the malignant cell, including electrolytes like potassium and phosphorus, urate from purine degradation and nucleoprotein phosphate [4]. TLS is associated with the initiation of chemotherapy in rapidly dividing myeloproliferative and lymphoproliferative disorders (Burkitt's lymphoma and acute lymphoblastic leukaemia) or chronic leukaemia, breast cancer, germ cell cancer, neuroendocrine tumours and small cell lung cancer [5]. However, TLS has also been reported with the initiation of radiotherapy, surgical intervention, endocrine therapy, glucocorticoids, interferon, hyperthermia [6]. Spontaneous episodes have also been reported in the literature in patients with high-grade malignant hemopathies [7]. TLS is defined by the clinical characteristics and by the laboratory criteria (Table 3) according to the classification Cairo and Bishop [8]. The mechanism behind renal failure would be justified by the presence of uric acid following treatment with these new agents [9] and by the deposition of calcium phosphate crystals at the renal level leading to acute renal lesions [10]. High uric acid is often secondary to the hepatic breakdown of nucleic acids and proteins. Rapid hyperkalaemia potentiated by renal failure would be the cause of cardiac rhythm disturbances. Some patients will complain of cramps, tetany, cardiac rhythm disturbances and convulsions due to precipitation of calcium-phosphorus and tissue deposition causing hypercalcemia [11].

Conclusion

As this condition is rapidly fatal, a high index of suspicion in a patient on cytotoxic therapy presenting with fatal arrhythmia and electrolytes abnormalities is extremely critical in the emergency department. A multidisciplinary approach must constitute the backbone of the patient's care. Immediate transfer of the patient to resuscitation room for close monitoring, rapid initiation of intravenous fluids to improve the circulatory volume and facilitate the excretion of uric acid and phosphate. The other therapeutic approaches to emergencies pass through a rapid recognition of high-risk patients, prompt identification of metabolic disorders by effective management and monitoring of hyperkalaemia, arrhythmias and renal function disorders and early initiation of haemodialysis. The laboratory workup should be strictly monitored, clinical observation and vital signs should be carefully executed, and cardiac monitoring maintained throughout treatment in the intensive care unit. Management in intensive care is always recommended with an emphasis on early initiation of dialysis. The treatment of choice for TLS remains prevention by its anticipation before the start of chemotherapy.

References



RECOGNITION AND MANAGEMENT OF ANAPHYLAXIS IN PRIMARY AND SECONDARY SCHOOLS

Authors B.Ali¹, ZA Sarani¹, MM Gulzar¹, A Russell², M Tariq^{1,3}

Midland Regional hospital Portlaoise, Midland Regional Hospital Tullamore

Background and introduction



Anaphylaxis is a life-threatening condition which needs early recognition and immediate management. It is always challenging for teachers and other school staff. Food allergy is the most common cause of anaphylactic reactions.

This study surveyed the understanding and knowledge of school staff in recognition and management of anaphylaxis. We conducted our survey in primary and secondary schools in two counties of Ireland.

AIM



The purpose of our study was to discover how confident the teachers and staff of primary and secondary school in recognising and treating children with allergic reactions and anaphylaxis in a school environment. We also tried to fill the gap in knowledge by conducting virtual workshop and seminars.

METHOD:



- We created 15 online questionnaires to assess the knowledge and confidence level of staff members (n=86).
- The response data was collected before the online teaching sessions to understand the baseline knowledge of anaphylaxis and tailor the seminar and workshops. We organized two distant teaching sessions each one lasted for 30 minutes.

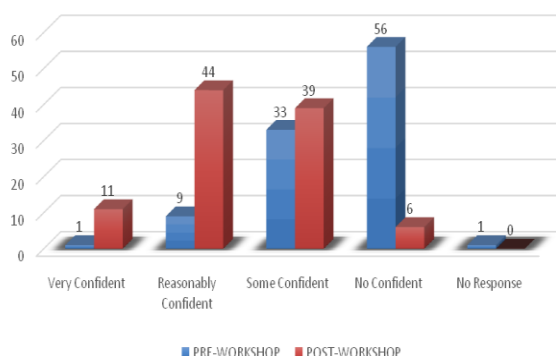
RESULTS



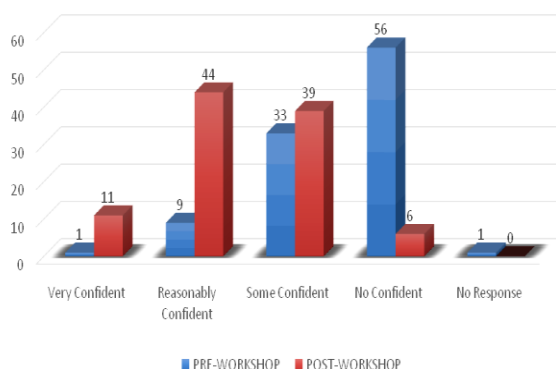
There was a total of 86 participants who responded to our survey, 64% (n=55) from Co. Laois and 36% (n=31) from Co. Kildare. Out of them, 75% (n=65) were schoolteachers, 17% (n=15) were Special Need Assistants (SNAs) and remaining were miscellaneous staff members.

- Our pre-workshop data shows that nearly 50% of the staff agree to immediately give AAI if they encounter a child with anaphylaxis which improved to 85 % in the post-workshop survey.
- We observed great improvement in recognizing and the management of anaphylaxis. Pre-workshop, 55% were confident in recognizing anaphylaxis symptoms which improved to 97% post workshop (Fig-2).
- Similar improvement was seen in managing anaphylaxis. 56% felt no confidence in treating anaphylaxis before attending the workshop which decreased to 6 % post workshop (Fig-3)

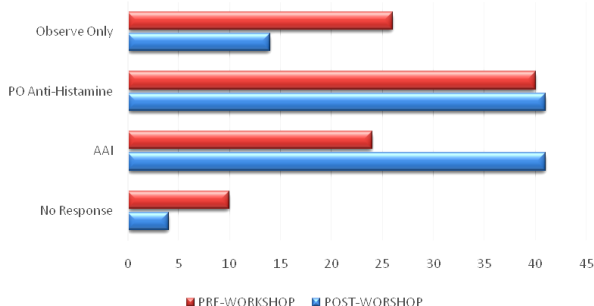
Anaphylaxis Recognition (%)



Anaphylaxis Management (%)



First Step in Management of Anaphylaxis (%)



CONCLUSION



- Early recognition and management of anaphylaxis with AAI can prevent progression to life threatening outcomes. Use of AAI even in doubtful cases is highly recommended in all published guidelines.
- Our study shows that most of the school staff are not well informed about anaphylaxis. They need more education and knowledge about food allergy and anaphylaxis.
- We strongly believe that such type of seminars and workshops should be conducted on a regular basis which will improve their level of understanding and confidence.

The Effect of the Covid-19 pandemic on sore throat presentations to the Emergency Department

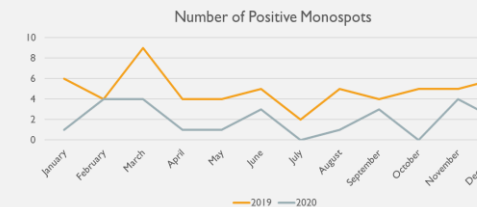
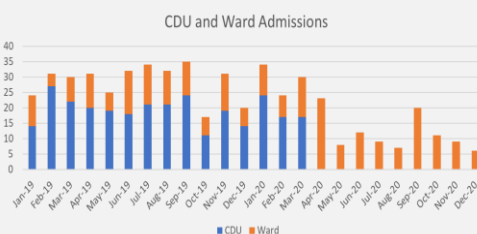
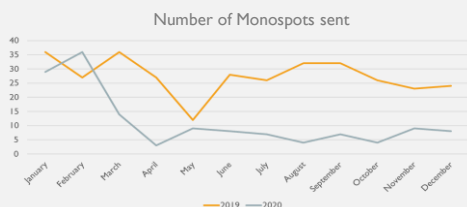
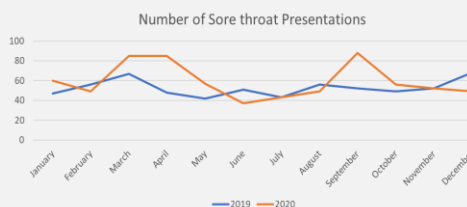
Conor Prendergast, John Cronin
Department of Emergency Medicine
St. Vincent's University Hospital

Introduction:

The Covid-19 pandemic has changed both the type of presentations and the dynamic of the Emergency Department (ED). Due to social distancing policies, have certain presentations such as tonsillitis and infectious mononucleosis decreased throughout the pandemic. Furthermore, with an influx of patients from the pandemic and the loss of our department's clinical decision unit (CDU), has the management of this cohort changed?

Results:

The number of presentations peaked in April 2020 and September 2020, coinciding with the national peak in Covid-19 cases. Discharge rate was similar both years, being 73% in April 2020 vs 75% in April 2019. Prior to April 2020, a monthly average of 19 patients were admitted to the CDU, with 9 patients being admitted to the ward. After the CDU's closure 11 patients were admitted to the wards. Average age of patients with sore throats in 2019 was 36.3 and 38.7 on 2020. Number of monospot tests sent in 2020 (n=145) was reduced by 56% from 2019 (n=329)



Methods:

The aim was to assess how the Covid-19 pandemic has affected the number of patients presenting with sore throats and how many of them were discharged, admitted, and referred to the CDU. The number of monospots performed and the positivity rate was also recorded. Retrospective audit was conducted using MAXIMS clinical database of all sore throat presentations from January 2019-December 2020. The Microbiology lab collected the number of monospots performed and the subsequent results.

Conclusion:

The Covid-19 pandemic saw a dramatic decrease in the number of infectious mononucleosis presentations to the ED, however the number of sore throat presentations increased. Despite this increase in presentations and the closure of the CDU, the admission rate to the wards only increased slightly.

References:

Available on request

“Did they really Knee-ED that x-ray?”

Compliance with the Ottawa Knee Rule in an Irish Emergency Department



Dr. James E Hanratty & Dr. Sean F O' Rourke

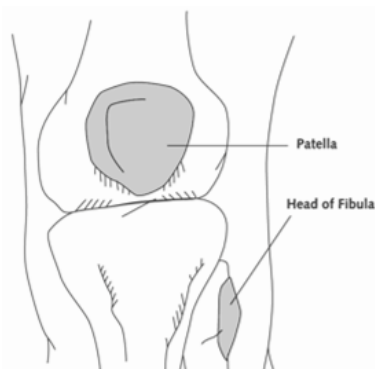


Introduction

The Ottawa Knee Rule (OKR) states that x-ray examination of the knee is indicated only if patients meet at least one of the five criteria: age 55 or over, tenderness of the fibular head, isolated tenderness of the patella, inability to flex to 90 degrees or inability to bear weight both immediately and in the Emergency Department for 4 steps (**Fig. 1**).

Ottawa Knee Rules

- Age ≥ 55 years
- Isolated patella tenderness
- Tenderness at head of fibula
- Inability to flex knee 90
- Inability to bear weight (4 steps) immediately after injury and in emergency department



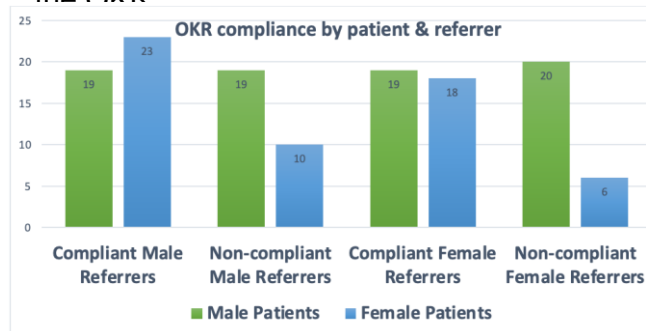
(Fig. 1)

Methods

A search was performed on our radiology system to identify all patients who had knee x-rays from 1st January – 31st March 2021. Clinical history provided by the referrer was surveyed for criteria of the OKR. An anonymous questionnaire was also completed by Consultants, NCHDS, ANPs, and x-ray prescribing nurses to gauge knowledge of the OKR.

Results

In total, 190 patients had a knee x-ray and 134 of these were performed in patients with an acute knee injury. Of these 134 patients, 79 patients and their provided clinical history were OKR compliant and 55 were not, hence, total compliance was **59%**. 77 patients were male and 57 were female. Female patient x-rays were **72%** compliant, however, male patient x-rays were just **50%** compliant (**Fig. 2**). Furthermore, our anonymous questionnaire showed knowledge and understanding of the OKR was not widespread with only **23%** of respondents correctly identifying criteria of the OKR.



(Fig. 2)

Conclusions

The Ottawa Knee Rule (OKR) is a validated clinical decision rule for identifying appropriate referral for x-ray in acute knee injury, in adults and children. With a validated sensitivity of more than 98% for identifying fractures, its use can help reduce the number of x-rays ordered, pressure on radiology services, with resultant cost savings. In order to improve compliance with the OKR, referring staff were educated about the OKR and reminder cards of its criteria were displayed in the ED. Radiographers were also asked to identify non-compliant referrals so that they can be reviewed by the referrer.

Hard to diagnose something you have not seen before

A case report

Izabella K Orban
St Vincent's University
Hospital



1. CASE PRESENTATION

- A 70-year-old female with non-traumatic calf pain and swelling in the last 24 hours attends the emergency department. She is in severe pain, 9/10 and is assigned to category 2. Her vitals: BP 143/89 mmHg, HR 88, RR 19, SpO2: 98%, T 37C, GCS 15/15.
- She is saying that something is "not right".
- HPC: developed pain approx. 20 hours ago, while she was walking in the garden. Denies trauma.
- The pain progressively got worse causing difficulty in her mobility with left lower limb swelling. Took analgesia without improvement.
- Her PMHx: HTN, DVT, PE - IVC filter in situ, spontaneous haemorrhage in her hip joint - managed conservatively.
- Medication: Apixaban, Amlodipine. Family history of multiple blood clots in first degree relatives.

2. CLINICAL FINDINGS

- Skin intact with normal temperature, bilateral pedal pulses present, CRT < 2 sec. No signs of cellulitis but firm and extremely tender left lower limb on superficial palpation.
- Pain worse on passive stretch of the left lower limb. Achilles' tendon appears intact. Left calf: 43.7 cm, right calf 40 cm. Generally tender left lower limb but not specifically along the deep venous system, no pitting oedema, without collateral superficial veins being present. Hip and knee examinations unremarkable.
- She received analgesia - Tapendalol and Paracetamol while her blood test were awaited with her left leg elevated

3. RESULTS AND OUTCOME

- The blood results (FBC, coagulation profile, d-dimer, CK, U&E, bone profile, lactate) were within normal limit.
- After analgesia and reassessment, the patient was referred to the orthopaedic team. The patient underwent emergency fasciotomy for *acute compartment (ACS)*.

4. LEARNING POINTS

- Compartment syndrome is a clinical diagnosis. Pain out of proportion is always a red flag.
- The absence of the "5 P's" does not exclude the diagnosis (pain out of proportion, pulseless limb, pale, paraesthesia, paralysis)
- Have high index of suspicion - trust your gut!
- Patients on long term anticoagulation are a unique patient population who are at higher risk of haemorrhagic insults.

5. REFERENCES

1. Raza H, Mahapatra A. Acute compartment syndrome in orthopedics: causes, diagnosis, and management. *Advances in orthopedics*. 2015 Jan 1;2015.
2. Mazur M, Jabaly N, Ebraheim N. Acute compartment syndrome in patients on long-term anticoagulation therapy. *J Trauma Crit Care*. 2018; 3 (1): 1-5 *J Trauma Crit Care* 2018 Volume 3 Issue.;1:8-12,

UTILIZATION OF SIILO FOR ACUTE ORTHOPAEDIC REFERRALS DURING COVID-19

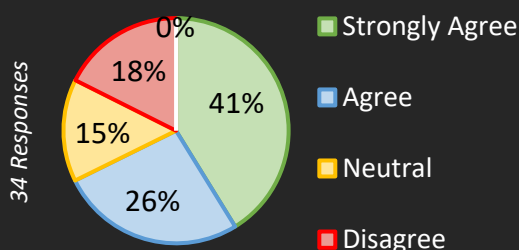
W. Bakhshi, L. Fahey, D. Cooper, K. Harris, B. O' Neil, J. Kelly

INTRODUCTION	METHODOLOGY
<ul style="list-style-type: none"> Siilo was introduced as a secure medical messenger platform in 2016. The traditional method of orthopaedic referral was the use of telephone referral. The referral method was changed to Siilo to facilitate social distancing and reduce the number of doctors attending the 	<ul style="list-style-type: none"> A questionnaire of 20 questions was conducted, and a survey was performed, incorporating the likert scale, including an open-ended question.

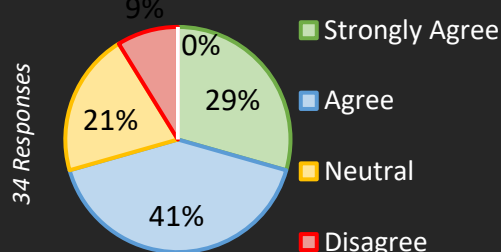
RESULTS

- 34/45 (77 %) responses were completed
- From the free text comments, candidates were asked to "please elaborate on how Siilo negatively affects decision making/ learning at SHO level"
- The main issue raised was that SHO's (emergency medicine and orthopaedics) relied less on their own decision-making skills.

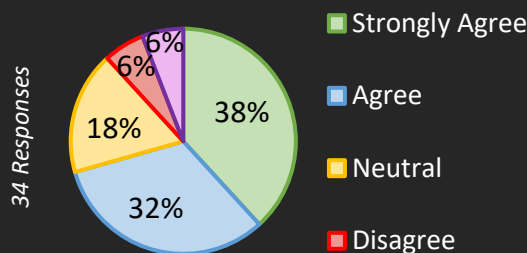
Do you feel Siilo should be continued going forward?



The use of Siilo promotes senior decision making from the beginning of patient management



Compared to traditional referral pathways to Orthopaedics from ED, Siilo has been beneficial for patient care



CONCLUSION

- This questionnaire was intended to assess the advantages and disadvantages of the use of Siilo in a healthcare setting.
- Based on the findings of this survey, Siilo promotes senior decision making from the beginning of patient management and provides a good learning platform for healthcare workers.
- The responses obtained in this questionnaire are a proportion of the potential respondents.
- The utilization of Siilo for acute orthopedic referrals during Covid-19 is an area which requires further analysis.

Acute epididymo-orchitis. Are we investigating patients appropriately?

Kelly C¹, Al Attas W², O'Meara S¹, Galvin D¹, Cronin J², Lennon G¹, McGuire B¹, Moran D¹, Mulvin D¹, Murphy M¹.

St Vincent's University Hospital
Urology Department¹
Emergency Department²

Introduction & Objectives

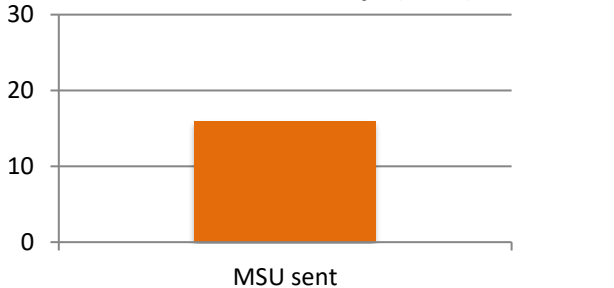
Acute epididymo-orchitis is a common infectious condition. ¹ Correct identification of causative pathogens is essential for treatment and prevention of complications. The aim of this study was to assess compliance with European Association of Urology (EAU) guidelines in the diagnostic evaluation of acute epididymo-orchitis in a tertiary referral centre. ²

Methods

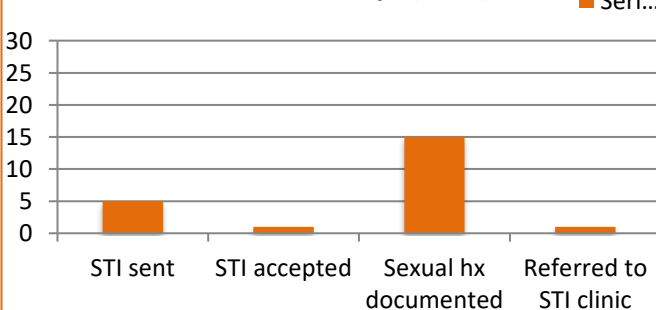
Case notes of 59 patients attending the emergency department with acute epididymo-orchitis over a 3 month period (November 2020 – January 2021) were reviewed. Emergency department records and laboratory results were examined to determine those with mid-stream urine (MSU) and sexually transmitted infection (STI) screens sent.

Results

Patients >35 yo (n=30)

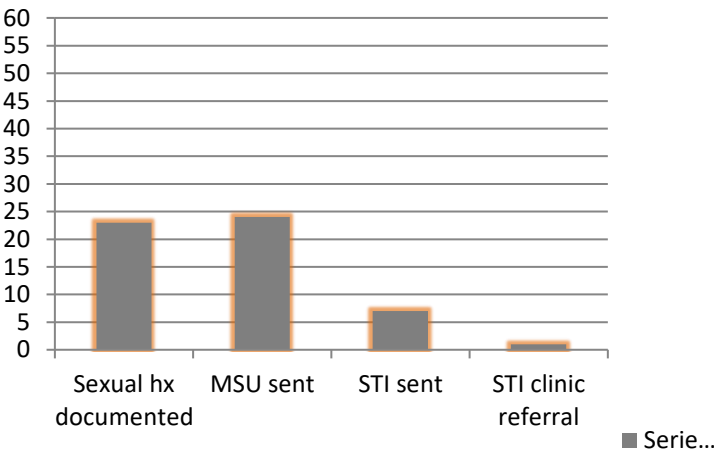


Patients ≤35 yo (n=29)



Results

59 Patient Case Notes were analysed



Study analysed 59 patients (age range 15-88), mean age of 42. 39% (23/59) had a documented sexual history taken. 41% (24/59) had MSU samples sent for culture and sensitivity. 12% (7/59) had Chlamydia trachomatis and Neisseria gonorrhea STI urine testing sent. Of which 57% (4/7) were rejected due to incorrect sample container. 17% (5/29) of patients 35 or younger had an STI screen sent. 53% (16/30) of the patients over the age of 35 had MSU sent. 22% (2/9) of patients with symptoms or were high risk of STI were successfully tested. Referral to STI clinic for further management was 2% (1/59).

Conclusions

The diagnostic evaluation of patients with acute epididymo-orchitis complies with EAU guidelines in a minority of cases. Due to frequent movement of junior staff through each department, regular education of staff is required including guidelines for investigation and management of epididymo-orchitis and local information outlining how to conduct STI screening.

References:

1. Çek M. et al. Acute and Chronic Epididymitis in EAU-EBU Update Series. Eur Urol Suppl 2017. 16: 124.
2. European Association of Urology Guidelines on Urological Infections published 2019, updated 2020.

INTRODUCTION

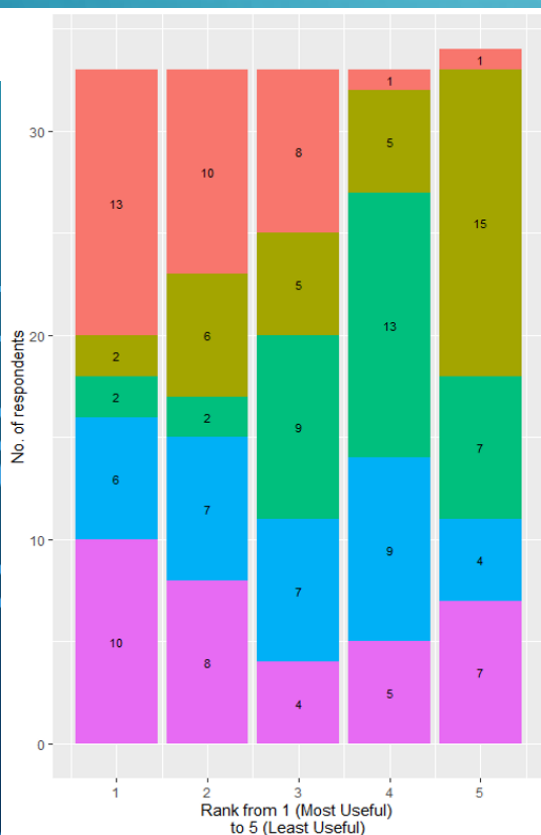
Paediatric thermal injuries are a common presentation to Emergency Departments. They are often managed in non-tertiary centres by junior medical staff with consequent challenges to care provision. As part of a wider study exploring the skills and attitudes of frontline medical staff managing this patient cohort, practitioners' preference for addressing educational needs and quality improvement was investigated.

METHODS

A quantitative, cross-sectional study using an online questionnaire was performed over a 5-week period at Sligo University Hospital from November 2020 to January 2021.

Medical staff of all grades from Emergency Medicine, Paediatrics, Surgery and Anaesthesiology were invited to participate.

Table 1: Stacked bar chart representing respondents' ranking of educational methods.



RESULTS

There was a total of 33 responses to the survey. Doctors working in Emergency Medicine accounted for 51.5% of respondents (n=17), 21.2% were GPs or GP trainees (n=7), 12 % from Surgery (n=4), 9% from Paediatrics (n=3) and 6% from Anaesthesiology/ICU (n=2).

The median level of experience was 5 years.

The majority of respondents were not comfortable managing thermal injuries in paediatric patients with 57% (n=19) answering 'not comfortable' or 'very uncomfortable'.

Respondents ranked attending a formal course and simulation training as their preferred means of addressing their educational needs. Attending a series of lectures ranked lowest. 29 respondents would prefer to attend a one-day course rather than attend a series of lectures. 24 respondents would prefer simulation training to attending a series of lectures. More experienced clinicians ranked a guideline as a higher priority whereas more junior clinicians would prefer a course or simulation training.

If a training programme were to be developed for the management of thermal injuries in children. What methods of education would you find most useful? Please rank one to five where one is the most useful and five is the least useful.

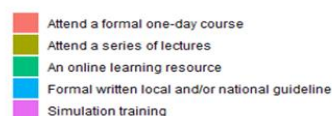


Figure 1: Colour key for interpretation of Table 1

CONCLUSION

The majority of clinicians managing acute thermal injuries in paediatric patients do not feel comfortable doing so. There is a need for provision of education for burns management. Practitioner preference for addressing educational needs is to move away from traditional lecture-based teaching to more interactive and dynamic fora.

O Raji, T Olukunle Popoola
Midland Regional Hospital Tullamore

Introduction

Retroperitoneal haemorrhage is a rare but life threatening diagnosis¹. It can be a source of significant yet occult blood loss². It can occur spontaneously or secondary to an injury or illness.

Case

A 76 years old male farmer presented to the Emergency Department with a 2-hour history of sudden onset severe abdominal pain and 1 episode of vomiting. He was very restless on arrival constantly shifting in bed with pain making it difficult to assess him despite receiving analgesia in the ambulance. He had a distended abdomen with severe epigastric tenderness. He denied bleeding per rectum, melaena or haematemesis. He had a background history of atrial fibrillation, IHD, type 2 diabetes and hypercholesterolaemia. His medications included apixaban, ramipril, bisoprolol and atorvastatin. His vital signs were unremarkable. His blood gas showed metabolic acidosis with a lactate of 4.9. Our differentials included perforated duodenal ulcer, ischaemic bowel, bowel obstruction, pancreatitis, and abdominal aortic aneurysm. Bedside ultrasound revealed no AAA. FAST scan was normal. Laboratory investigations showed elevated inflammatory markers, haemoglobin of 9.5, unremarkable LFT and normal amylase. ECG and Chest X-ray were normal. He later became pale, clammy and hypotensive. His repeat blood gas showed increased lactate of 6.4 with worsened metabolic acidosis. CT abdomen and pelvis showed a probable large gastric tumour with active bleeding suggestive of tumour perforation with perihepatic and perisplenic ascites (Figure 1). He was immediately taken to theatre by the surgeons. A large necrotic retroperitoneal tumour which had eroded into an unknown vessel causing massive bleeding was seen. The bleeding vessel was ligated and he was commenced on massive transfusion protocol. He remained stable post-op. Histology showed a sarcomatoid carcinoma with numerous mitosis and tumour necrosis. He is currently on neoadjuvant chemotherapy and being considered for tumour resection.

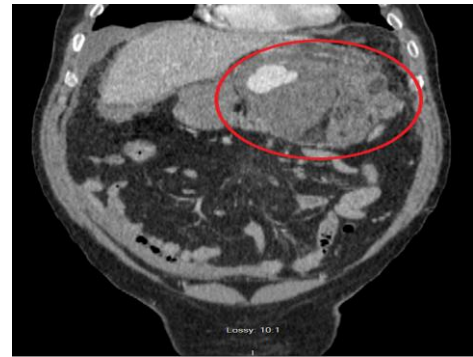


Figure 1

Discussion

Retroperitoneal haemorrhage is often occult and under-recognized by clinicians and is a cause of significant morbidity and mortality. Often patients do not manifest clinically apparent signs and symptoms until a substantial amount of blood loss has occurred. Retroperitoneal haemorrhage can be classified as traumatic and non traumatic. The diagnosis of retroperitoneal haemorrhage requires a high degree of clinical suspicion. In almost all cases, it is reliant upon the use of computed tomography (CT) scanning, which is often useful to confirm the diagnosis as well as identify the underlying cause. Treatment modalities include observation, interventional radiology coiling/embolization, and operative management for unstable patients³.

Conclusion

This case highlights the significance of good history, thorough examination and having a high index of suspicion in a patient with an unusual presentation. It also emphasises the importance of early imaging and early intervention by the surgical team.

References

1. Retroperitoneal Hematoma in the ED - emDOCs.net - Emergency Medicine Education, 2021
2. Skandhan, A., 2021. *Retroperitoneal haemorrhage | Radiology Reference Article | Radiopaedia.org.* [online] Radiopaedia.org. Available at: <<https://radiopaedia.org/articles/retroperitoneal-haemorrhage?lang=gb>> [Accessed 19 April 2021].
3. Mondie C, Maguire NJ, Rentea RM. Retroperitoneal Hematoma. [Updated 2020 Nov 12]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK558928/>

Introduction

Procedural sedation carries with it the potential of serious adverse events, delayed discharges and unexpected admissions. The RCEM Guidelines and JCI SVUH Guidelines provide a clear framework for best practice for post procedural sedation care. We audited our practice in June 2020 and again in February 2021 following a staff education initiative and implementation of a post procedural discharge advice sheet.

Methods

A retrospective review of 30 patients who underwent procedural sedation in the emergency department pre and post staff education and the introduction of a procedural sedation discharge advice sheet. The procedural sedation booklet was used to identify these patients and the required post procedure documentation fields was reviewed.

Results

75% female, 25% male, mean age 61.
0% documentation of discharge criteria first cycle.



Conclusion

- Improvement across all parameters measured.
 - Patients continue to be discharged from the procedure room without documentation of required fields as laid out in the JCI SVUH Procedural Sedation Guideline.
 - The implementation of a discharge advice sheet for the Emergency Department was successful but staff failed to distribute to patients sufficiently.
- Reference: SVUH JCI Guidelines for Management of Patients Receiving Procedural Sedation, (SVUH 2019).

Background:

Vascular complications in the surgical treatment of hip fractures are rare. Subacute hematoma formation with arterial pseudoaneurysm development is a rare complication as a result of a hip fracture.

The incidence of pseudoaneurysm after hip fracture is very low (0.21% of incidence) and rarely reported as a consequence of dislocated bone fragments.

Arterial damages can occur as a result of bone spikes or due to iatrogenic damage from screw tips, drill bits and retraction of surrounding tissue.

The symptoms and signs of pseudoaneurysm are nonspecific and presentation can be weeks or even months after the initial injury making diagnosis a challenge. It requires a high index of suspicion, and if undiagnosed can have serious complications.

Images :



Figure 1 Doppler US showing large pseudoaneurysm arising from the profunda femoris artery

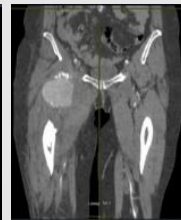


Figure 2&3 CT angiogram showing large pseudoaneurysm measuring up to 9 cm arising from the right profunda femoris.

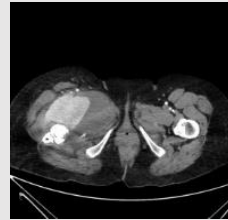


Figure 3,4 &5 showing interventional radiology angiogram images

Case Presentation

A 66-year old lady presented to our Emergency Department with a 6-week history of right thigh pain and swelling.

She sustained a right intertrochanteric hip fracture 8 weeks prior to this presentation for which she

underwent proximal femoral nailing fixation. Her peri-operative period was uneventful and she was discharged home. Shortly following her discharge, home, she experienced increased pain and swelling and reduced mobility. She had a number of presentations to her general practitioner before presenting to the Emergency Department with worsening symptoms.

On examination her right thigh was swollen, there was no pitting oedema, no pulsating mass, and her pulses were intact. She was admitted for investigation and treatment of a suspected deep vein thrombosis, as suggested by her history and examination. The severity of her pain and the extent of the swelling necessitated inpatient investigation. She was started on rivaroxaban until the doppler ultrasound could be obtained the next day.

Doppler ultrasound (Figure 1) showed a large pseudoaneurysm arising from the right profunda femoris artery. A CT angiogram (Figure 2) subsequently confirmed the diagnosis.

The patient had a successful embolization of the pseudoaneurysm. This was confirmed with ultrasound 24 hours later. The patient was discharged home in good condition

Discussion

Vascular complications after fixation of hip fractures are rare. These complications can develop after fracture during intramedullary hip nailing and displacement of bone fragments during fracture repair. Furthermore, some authors suggest that manipulation of atherosclerotic vessels of the leg on the fracture table may injure their brittle endothelium with an increased risk of bleeding and thromboembolic events.

Pseudoaneurysms are surrounded by a thin fibrous capsule in contrast to true aneurysms that consist of the true layers of the arterial wall. There is a high risk of enlargement and rupture of the vessel, in particular, when the dimension of the pseudoaneurysm is superior to 3 cm. Rapid expansion, infection, skin or soft tissue necrosis, neuropathy, distal ischemia, pain, or rupture are the most important indications for repair.

Management depends on patient comorbidities and the pseudoaneurysm location and size.

Asymptomatic pseudoaneurysms <3 cm may be monitored in close follow-up for spontaneous resolution. For symptomatic pseudoaneurysms >3 cm, options include surgical repair, intraarterial catheter techniques (embolization and stent placement), or thrombin injection under Duplex imaging guidance.

In conclusion, this case highlights the rare but serious complication of profunda femoris artery pseudoaneurysm after hip fracture fixation. Diagnosis is challenging and often delayed due to nonspecific clinical symptoms. A high index of suspicion is imperative.

References

- [1] Schnell S, Friedman SM, Mendelson DA, Bingham KW, Kates SL. The 1-year mortality of patients treated in a hip fracture program for elders. *Geriatr Orthop Surg Rehabil*. 2010;1(1):6-14. doi:10.1177/2151458510378105
- [2] Labronic Pedro José, Santos Filho Fernando Claudino dos, Diamantino Yuri Leander Oliveira, Loureiro Eduardo, Ezequiel Maria Cristina Diniz Gonçalves, Alves Sérgio Delmonte. Proximal Femur Fracture and Vascular Injury in Adults-Case Report. *Rev. bras. ortop.* [Internet]. 2019 June [cited 2020 Dec 03]; 54 (3): 343-346. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0102-36162019000300343&lng=en. Epub July 29, 2019. <https://doi.org/10.1016/j.rbo.2017.09.003>
- [3] Piolanti N, Giuntoli M, Nucci AM, Battistini P, Lisanti M, Andreani L. Profunda Femoris Artery Pseudoaneurysm after Intramedullary Fixation for a Pertrochanteric Hip Fracture. *J Orthop Case Rep*. 2017;7(2):74-77. doi:10.13107/jocr.2250-0685.758
- [4] Bektaş F, Soyuncu S. Pseudoaneurysm of the superficial femoral artery detected by emergency medicine bedside ultrasound. *Int J Emerg Med*. 2010;3(4):425-426. Published 2010 Aug 21. doi:10.1007/s12245-010-0186-8

Bronchiolitis Management of Admitted Paediatric Patients in a University Teaching Hospital

 Dr. Cathal de Buitléir, Dr. Aisling Fanning, Dr. Ahmed Al Rasheed

INTRODUCTION

It is well established that bronchiolitis is a clinical diagnosis. Best practice guidelines recommend that no investigations should be routinely performed. Management includes supporting feeding and oxygenation as required. No medication should be routinely administered. In spite of these recommendations the management of patients once admitted often deviates from evidence based guidelines and the care delivered initially in the Emergency Department.

METHODS

37 cases were identified between November 2019 and February 2020. A search of the hospital inpatient enquiry (HIPE) data was undertaken for the discharge diagnosis 'bronchiolitis'. The Integrated patient management system (iPIMS), discharge letters, the National Integrated Medical Imaging System (NIMIS), and lab system were then interrogated for details of management with complete data available for 36 cases. The management of cases was compared with international guidelines to identify the percentage of patients who received/did not receive a specific list of interventions.

RESULTS

The following interventions were administered in the accompanying percentages of cases:

- O2 – 86%
- Beta-2 agonists – 39%
- Saline nebs/nasal drops – 44%
- Antibiotics – 36%
- CXR – 69%
- Bloods – 75%
- Viral swab – 22%
- HFNP – 11%

Conclusion

In spite of the existence of numerous international best practice guidelines, management in admitted patients was found to regularly deviate from evidence based recommendations. It is essential that evidence based medicine is practiced throughout the patient journey and not just in the Emergency Department in order to ensure good outcomes and consistency of care.

37 Cases

20 Female; 17 Male

Mean age 4 months

Mean LOS 3.4 days
(SD: 2.28, Range 0.5 – 11)

IEMTA 

Double Trouble: Bilateral Dislocations in Native Hips

Dr. Shona Keogh, Dr. Abdul Safras, Dr. Victoria Meighan



**Tallaght
University
Hospital**

An Academic Partner of Trinity College Dublin

Ospidéal
Ollscoile
Thamhlachta

Introduction

Isolated bilateral traumatic hip dislocations in native hips are a rare presentation. High energy trauma caused by road traffic accidents is the most likely mechanism of injury.

Associated injuries are observed in between 74% - 95% of cases. Most of these (58%) were fractures of the femur or pelvis.

The average Injury severity score was 17.4. Posterior dislocations for 90% of these injuries.

Case Presentation

Presenting Complaint

We present the case of a 23 year old male who was brought in by air ambulance following a Road Traffic Accident. He was a restrained passenger travelling at approximately 120km/hr., airbags deployed which collided head on with a tree. The patient was intoxicated with alcohol and cocaine.

Examination

A trauma call was placed on arrival. An ED Trauma team was assembled to perform an immediate primary survey. The patient's airway was patent. The patient's cervical spine was immobilised. Examination of his chest and abdomen was unremarkable and an extended FAST scan was negative. On arrival he was complaining of pain in his right hip which was noted to be shortened and he was unable to move right foot. His left internally rotated but he was able to move his left foot.

Investigations

Following initial assessment, the patient was booked for CT Trauma series (brain, cervical spine, thorax, abdomen & pelvis) and this was extended to the mid-shaft of the femurs bilaterally. Notably he did not have plain film radiographs of the chest or pelvis prior to transfer to CT.

CT demonstrated no intracranial abnormality but a right anterior nasal spine of the maxilla was noted. There was no spinal injury, no intra-thoracic or intra-abdominal injury. Computed Tomography demonstrated bilateral posterior hip dislocations with the femoral heads sitting posterior and superior to the acetabulum. No fracture was identified.



Figure 1: Radiograph of the pelvis demonstrating bilateral posterior dislocation of the femoral heads no fracture is visualised.

Management

With recognition for the urgency of reduction of the patient received procedural sedation and the Allis method was used to relocate both hips. This involves stabilizing the pelvis and then the hip is flexed to 90° and traction is applied. Gentle external rotation is applied as the hip begins to relocate.

Post relocation the patient's still had foot drop to his right side.



Figure 2: Axial view of the pelvis



Figure 3: Coronal View of Pelvis Demonstrating dislocations the Right hip sitting further superiorly.

Learning Points

Although in this case there was no other major injury identified. Fractures of the femur or acetabulum are associated with 56% of hip dislocations. Additional injuries were seen in 74% of patients.

Therefore given the mechanism of injury it's always necessary to closely assess for other injuries.

Sciatic nerve injuries presented in 10% of cases and it is important to assess and document neurovascular status pre and post reduction.

Rapid intervention especially in native hips on these types of dislocations is essential. Hip dislocations are at high risk for avascular necrosis if not relocated urgently in under six hours. There is also an association between urgent relocation and improved long-term outcomes.

References

- Waddell, B., Mohamed, S., Glomset, J. and Meyer, M., 2016. A detailed review of hip reduction maneuvers: a focus on physician safety and introduction of the Waddell technique. *Orthopedic Reviews*, 8(1)
- Sahin, V., Karaka, E., Aksu, S., Atlihan, D., Turk, C. and Halici, M., 2003. Traumatic Dislocation and Fracture-Dislocation of the Hip: A Long-Term Follow-Up Study. *The Journal of Trauma: Injury, Infection, and Critical Care*, 54(3), pp.520-529.



**Tallaght
University
Hospital**

An Academic Partner of Trinity College Dublin

Ospidéal
Ollscoile
Thamhlachta

The Use of GoPro Cameras for Simulation Recording and Debriefing



ST. VINCENT'S
UNIVERSITY HOSPITAL
Elm Park



James Foley, Micheál Sheehan, Andri Engelbrecht, Rosa McNamara, Nigel Salter, John Cronin.

Department of Emergency Medicine, St. Vincent's University Hospital, Dublin 4.

Introduction

COVID-19 has resulted in challenges in the delivery of education to EM trainees. While teaching has resumed in many Emergency Departments (EDs) via online meeting modalities, it can be difficult to perform high-quality simulation moulages with multiple team members and interdepartmental groups. The GoPro is a small, lightweight, high-resolution camera with a wide-angle field of view that can encompass the clinicians point of view and the overall scenario. This study describes the effectiveness of using a GoPro camera for recording simulation scenarios during the COVID-19 pandemic.

Methods

We obtained two GoPro cameras (GoPro HERO 4™, GoPro HERO 7™) and these were trialed on two simulation scenarios. One was an ED-based and the other was an interdepartmental scenario. Once the scenario was concluded, the videos were edited using Microsoft Video Editor™. The video was then replayed during interdepartmental teaching sessions with debriefing performed post playback.



Results

Two simulations have been recorded to date and debrief via WebEx™. Both simulations had limited staff present to ensure adequate social distancing and both scenarios were recorded and replayed during teaching sessions. The first scenario involved ED staff only, while the second scenario involved staff from seven different departments in the hospital, all of whom were able to log on for the playback of the simulation and take part in the debrief.



Conclusion

Using a GoPro is an alternative method to provide high quality simulation training to staff in ED during a global pandemic. Recording and debriefing the simulation provides access to the training for increased numbers of trainees, and this allows large interdepartmental debrief processes via online meeting modalities. All stakeholders for both simulations found the process worthwhile and would be willing to engage in future recorded simulations.

Improvement in management of patients with suspected cervical-spine injury in the Emergency Department

Hassan, Z; Khan, K; Ryan, D; Cummins, F

Background

Cervical-spine (C-spine) injury varies from 2.8-7% (risk is inversely proportional to level of consciousness). Prevalence is higher in males and follows a bimodal age distribution. Most commonly occurs as a result of neck trauma from road traffic collisions, falls or sports-related injuries.

Aim

To improve c-spine injury management in the Emergency Department (ED)

Cohort Selection

All patients with traumatic neck pain attending the ED during the period of 15th July to 15th August 2020 80 patients were included

Exclusion Criteria

- <16 years of age
- Polytrauma patients
- Vitally unstable patients
- No X-Rays at time of ED presentation

Results

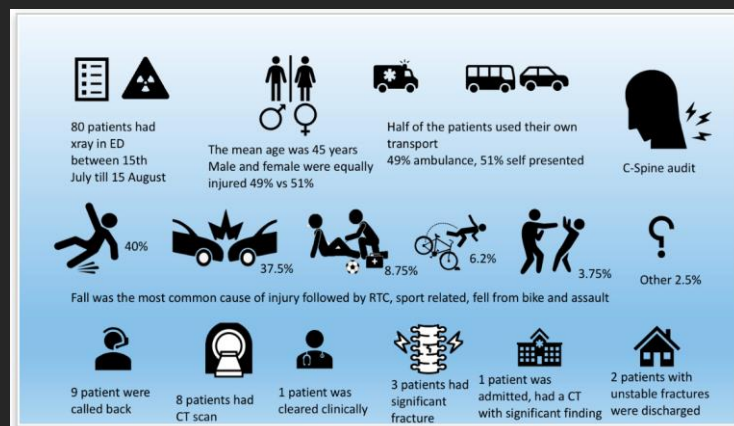
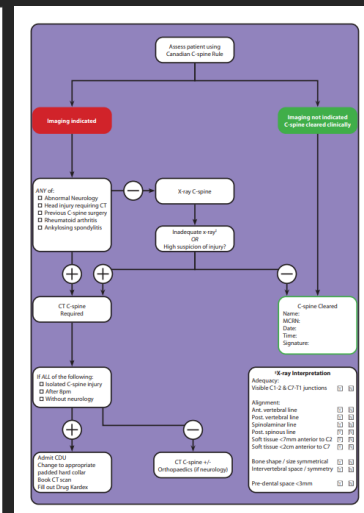
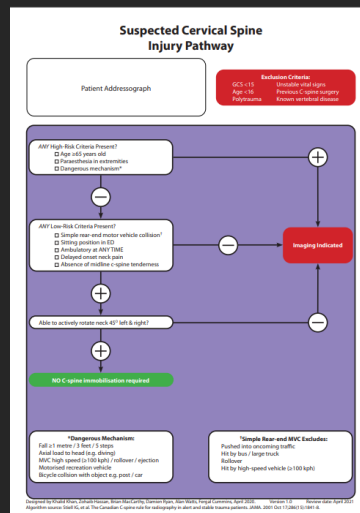
- Mean age of patients was 45 years
- 49% of patients arrived by ambulance while the remainder self-presented at ED
- Common mechanisms of injury:
 - Fall (32)
 - Road traffic collision (30)
 - Sports-related injuries (7)
 - Fell from bicycle (5)
 - Assault (3)
 - Other causes (3)
- Total average time from triage to X-ray was 3.5 hours
- 10 patients were discharged with suspected c-spine injury
- 9 patients were called back for review
- 8 patients underwent CT C-spine while the remaining 1 patient was cleared clinically
- There were 3 missed cases of c-spine fractures
- Of these 3 cases, 1 patient required admission

Conclusion

Of the 10 discharged patients with suspected c-spine injury, 2 patients had significant fractures on their initial X-rays. These fractures were not identified by junior and middle-grade staff.

Recommendation

All patients with inadequate X-rays or ongoing clinical concern should have further imaging. Teaching sessions for NCHDs. Pathway is implemented and prospective second audit cycle is underway.



References

Canadian C-spine rule for radiography in alert and stable trauma patients. JAMA. 2001 October 17; 286 (15): 1841-8.

Objectives & Background

Fascia Iliaca block (FIB) is a regional anaesthesia technique used in pain management in acute neck of femur fractures in the Emergency Department (ED). The aim of this audit was to observe the rate of FIB documentation in the ED in patients with confirmed neck of femur fracture.

Methodology

The standard used for this audit was the Royal College of Emergency Medicine Best Practice Guidelines: Fascia Iliaca Block in the Emergency Department. Revised July 2020. The first audit cycle took place from 01/10/2019 – 31/12/2019 (Fig 1) and the second cycle from 01/03/2020 to 31/05/2020 (Fig 2). The target population was patients who presented to the ED with neck of femur fractures and were subsequently admitted under orthopaedics. The process involved a retrospective review of the patient's ED notes via Spectrum and Maxims. Following the initial cycle a new FIB sticker was introduced to improve documentation.

Results

FIB documentation

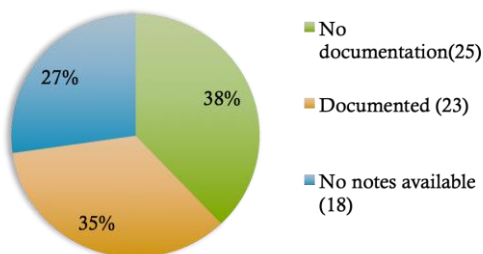


Fig 1. Results from first cycle of audit

FIB documentation

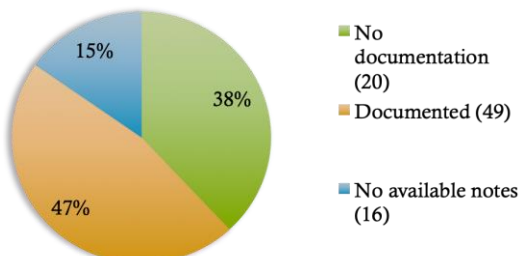
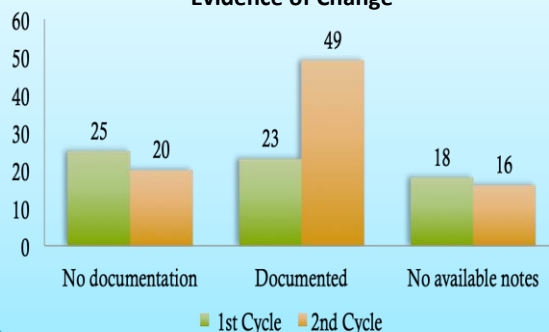


Fig 2. Results from second cycle of audit post sticker implementation

Results

- First cycle (Fig 1) 66 patients identified that met criteria:
 - 25/66 (38%) had no documentation of any FIB
 - 23/66 (35%) had a documented FIB
 - 18/66 (27%) had no available notes
- Second cycle (Fig 2) 85 patients identified that met criteria:
 - 49/85 (57%) had a documented block or reason a block was not performed documented
 - 34/85 (40%) had a block documented with site, side, consent and drug dose/volume documented
 - 12/85 (14%) had a documented block but without specified drug dose or volume or both
 - 3/85 (3.5%) had no block performed but to documented contraindication
 - 16/85 (19%) had no available notes
 - The new sticker was only used once in the notes reviewed

Evidence of Change



Conclusion

- Fascia Iliaca blocks are regularly used as a pain management technique in the ED however our documentation of them is below standard despite implementation of a designated sticker.
- Overall we did see some improvement in documentation and this is thought to be through improved education and frequent use of email reminder messages.
- Lack of use of the new sticker in part is attributed to difficulty with use of beside paper notes of patients during the pandemic
- Further audit is required post implementation of a new hip fracture proforma document which includes FIB documentation

An Audit of the management of Acute Asthma Exacerbation presentations in an Adult Emergency Department



Tallaght
University
Hospital

An Academic Partner of Trinity College Dublin

Ospidéal
Ollscoile
Thamhlachta

Dr. Carla Hopper, EM Specialist Registrar, TUH Emergency Department

Introduction

Asthma, a chronic inflammatory disorder of the airways, is quite common in Ireland with over 380,000 people living with the condition¹. It is difficult to ascertain exact numbers but asthma accounts for a large percentage of respiratory presentations to Emergency Departments. It was noted during daily departmental board-rounds in TUH ED that there was a lack of consistency in the approach to treating patients with an asthma exacerbation. An audit was performed to evaluate this variability in asthma care.

Methodology

A retrospective patient record review was performed of 50 patients who presented to Tallaght University Hospital from October 2020 to February 2021 with a final diagnosis of 'Asthma'. Data from these patients' clinical notes were compared with the Royal College of Emergency Medicine (RCEM) Standards described in the Moderate and Acute Severe Asthma Clinical Audit 2016/17².

Discussion

Classifying the presentations into the appropriate categories of asthma severity as per the BTS/SIGN classification³ of acute asthma was difficult and was limited by a lack of clinical information, particularly in relation to the peak expiratory flow rate.

However, based on the parameters available, 29/50 were identified as being either a moderate or severe presentation.

There are fifteen clinical standards set out by the RCEM & British Thoracic Society² in order to improve clinical practice. Target compliance percentages for these standards is either 50-100% depending on the standard.

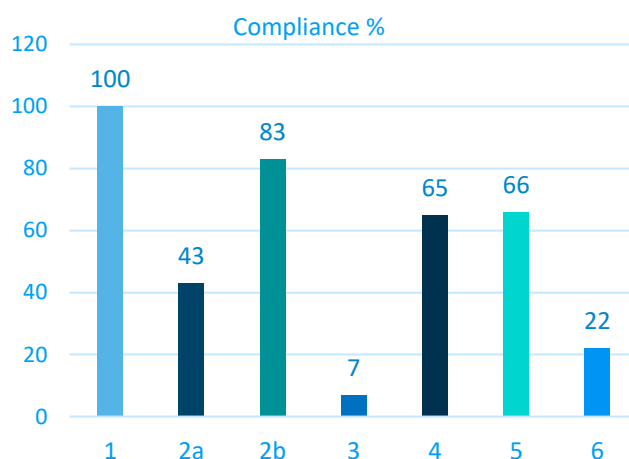
Due to the difference in clinical practice e.g. the prescription of oxygen, only seven of these standards were compared with asthma management in TUH ED:

- 1) Vital signs measured and recorded on arrival at the ED (100%)
- 2) Steroids given:
 - a) within 60 mins in severe exacerbations (100%)
 - b) within 4 hours in moderate exacerbations (100%)
- 3) Nebulised β_2 agonist bronchodilator within 10 minutes (100%)
- 4) Nebulised Ipratropium Bromide if there is a poor response to β_2 agonist bronchodilator therapy (100%)
- 5) Intravenous Magnesium 1.2 - 2g over 20 minutes to be given to adults with acute severe asthma who do not respond well to bronchodilator (100%)
- 6) Discharge patients should have oral prednisolone (100%)

(*RCEM compliance percentages)

Results

Unfortunately, multiple standards were not met in comparison to the RCEM standards:



Conclusion

This audit shows a significant variability in the management of asthma in our ED, and RCEM standards were not met. It is vital that a standardised evidence-based approach is introduced in order to improve the quality of care delivered to patients presenting with asthma exacerbations. Also, documentation of peak flow along with discharge information given to a patient must be improved so this too can be audited.

As a result of this audit, an acute asthma exacerbation management pathway has been developed and subsequently, asthma exacerbation care will be re-audited following its introduction.

References

1. Asthma Society of Ireland (2021), Asthma Basics, www.asthma.ie/get-help/learn-about-asthma/asthma-basics/asthma-basics
2. RCEM Moderate & Acute Severe Asthma Clinical Audit 2016/2017, National Report
3. BTS/SIGN British Guideline on the Management of Asthma 2019



Tallaght
University
Hospital

Drowning in Diesel: A case report

A S Abdul Safras¹, Victoria Meighan²

¹Specialist Registrar in Emergency Medicine, ²Consultant in Emergency Medicine

Tallaght University Hospital Emergency Department



Tallaght University Hospital

Ospidéal Ollscoile Thamhlachta

An Academic Partner of Trinity College Dublin

Introduction

We present a case of lethal diesel ingestion and inhalation following accidental submersion in a diesel filled manhole. Diesel is a complex mixture of chemicals mainly obtained from the distillation of crude oil. It is a hydrocarbon. Accidental poisoning with diesel is very rare within the

Case Presentation

An unknown male in his 60's was brought in by air ambulance following accidental, prolonged submersion in a diesel tank. The accident occurred in his workplace where his job was to fill up (usually empty) diesel tanks.

According to CCTV footage and from collateral history taking, he opened the tank and 'collapsed' into it. Work colleagues extricated him from the tank several minutes later. During this time, he was positioned face down, submerged in diesel, with his arms trapped behind him. He had a past medical history of severe asthma with several hospital admissions but none to the intensive care unit. He was using regular inhaled steroid and beta agonist. He had no known drug allergies and was not on any other medication.

Following extrication, he was found to be in cardiac arrest and bystander CPR was commenced immediately. When emergency medical prehospital services arrived, he had regained spontaneous circulation but remained unconscious. He then had a generalised tonic clonic seizure. The prehospital team managed his airway with an oropharyngeal airway and nonrebreather oxygen. His cervical spine had not been immobilised prehospital. He had x 1 large bore intravenous access and had been given 5mg of midazolam.

On arrival he was unconscious and snoring requiring immediate resuscitation by the team assembled.

On examination

Airway: patent, not protected, OPA in situ, snoring, unconscious
Cervical spine: not immobilised prehospital: immobilised with collar/blocks/tape

Breathing: RR 8 chest expansion equal and reduced, poor air entry bilaterally, SPO2 92% on 15 L NRB

Circulation: cool peripherally HR 80, BP 84/64, HS dual, abdomen soft, pelvis: binder applied, long bones NAD

Disability: GCS 3, pupils small bilaterally but reactive, Temp 35, BSL 8.2

Point of care investigations

eFAST – Bilateral diffuse B lines. suggesting pulmonary oedema

Arterial Blood GAS: pH 6.94, PCO2 12.3, PO2 7.9, HCO 16, Lactate 7.9

Management

Airway: immediate identification for need for rapid sequence induction, intubation and ventilation. Anticipated difficult airway due to spinal immobilisation. Anticipated difficult RSI due to profound hypotension.

- RSI with Fentanyl, Ketamine and Rocuronium using an RSI checklist
- Failed first attempt at intubation, second pass with direct laryngoscopy
- Positive pressure ventilation commenced immediately
- Profound hypoxia following positive pressure ventilation; SPO2 86% on 100% FIO2
- Bronchial aspiration revealed visible diesel contamination as well as in NG aspirate

Management (Cont.)

Breathing: unable to treat pulmonary oedema because of profound hypotension

Circulation: central line access secured and commenced on noradrenaline infusion. Arterial line sited for continuous blood pressure monitoring.

Diesel toxicity managed as per toxbase 'supportive treatment' and discussed with the national poisons centre.

Disability: paralysed and sedated.

- Despite definitive airway and ventilation remained profoundly hypoxic
- Re-assessed for potential causes; hypoxia checklist
- Suspected aspiration and bronchospasm treated with steroids and MDI salbutamol via ET tube. Given the background of asthma his chest was squeezed to exhale the trapped air
- Due to ongoing hypoxia patient was disconnected from the ventilator and manually hyperventilated to improve oxygenation. There was transient rise in oxygen saturation
- Bronchial lavage performed by ICU team
- Mater ICU contacted re ECCMO: unavailable
- Transferred to ICU and attempted prone positioning to improve oxygenation.
- No improvement
- Patient died 10 hours post exposure; RIP

Discussion

Diesel is a Hydrocarbon produced as an intermediate fraction of petroleum distillate. Toxicity varies according to route of exposure. Most common effects are CNS depression and pulmonary toxicity, including bronchospasm, pulmonary oedema and ARDS. Pulmonary toxicity mostly following ingestion (due to aspiration) or inhalation. Systemic toxicity is possible after ingestion and prolonged skin contact, although it is very rare. Aspiration into the lungs may cause pneumonitis or acute lung injury, followed by bronchospasm and hypoxia. CXR changes suggestive of pulmonary oedema may take up to 24 to 72 hours to develop but point of care ultrasound findings in our case were immediate. Management is to adopt an ABCDE approach and assess the severity of toxicity according to the primary survey. Though this patient was submerged he still fell into a tank. Therefore, ATLS principles should also be observed with c-spine immobilization, pelvic binder application etc. We utilised both TOXBASE and the National Poison Information Centre for additional information on resuscitation.

Case specific learning points

Always consider cause of collapse and potential for trauma in drowned or submerged patients.

Be prepared to 'STEP UP' in resuscitation, prepare yourself and your team.

Cognitive aids are very useful during complex stressful resuscitations. We used an RSI checklist, a hypoxia checklist and toxbase printed information.

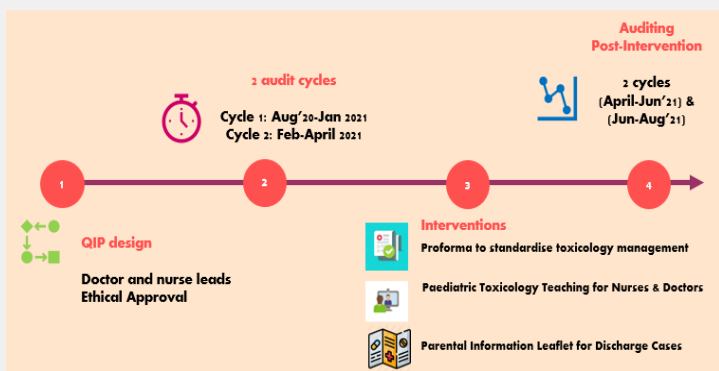


Paediatric Toxicology

A Paediatric Quality Improvement Project
Midlands Regional Hospital Portlaoise

Stephen G Sheridan (CSTEM 2)
Marie Rohan, c.ANP (PEM)
Dr Balanica Cons. Paediatrician

QIP Pathway: Design to Interventions



Proforma

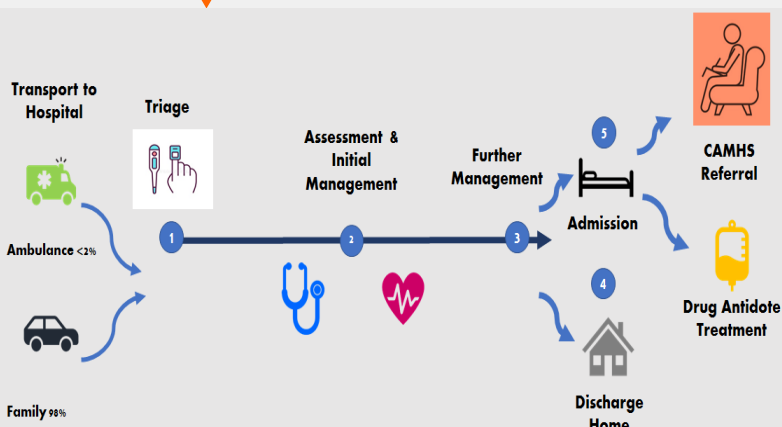
Parent Information Leaflet



Audit Data

Overdose Epidemiology	Accidental	Intentional
	<p>Children</p> <p>Cycle 1: median age 2yrs Cycle 2: median age 1.6 yrs.</p> <p>Substance Ingestion</p> <p>Non Medicated ?</p> <p>Household Cleaning Agents</p> <p>Medicated Substances ?</p> <p>Paracetamol Products</p>	<p>Teenagers</p> <p>Cycle 1: median age 13yrs Cycle 2: median age 14 yrs.</p> <p>Substance Ingestion</p> <p>Medicated Substances ?</p> <p>Paracetamol Combinations</p>

QIP Targets: A Child's Pathway through ED



Summary

Overdoses are common paediatric presentations and are predominantly accidental in nature.

Our data shows paracetamol products and household cleaning agents are common reasons for accidental & intentional ingestion presentations

Management for a patient with an overdose involves a structured approach like any sick patient

The paediatric overdose QIP continues to review the new interventions to ensure on-going clinical education, documented and ToxBase supported management and ensuring child welfare in every case

Major Trauma Management Training, the Missing Piece in Paediatric Hospitals.

Are Paediatric Hospital Staff Confident in Major Trauma Assessment? A quality improvement project focused on improving staff confidence.

K, Delaney . M, Qotb . C, Byrne.

Background:

Trauma accounts for a large proportion of childhood morbidity and mortality. Improved hospital management has been demonstrated to reduce mortality through the early identification of high-risk trauma patterns and impeding life-threatening injuries. Teaching of paediatric trauma management is imperative to ensure retained knowledge of both trauma assessment and management amongst staff.

Methods:

A survey was designed and distributed to the emergency medical staff of a busy children's emergency department focusing on staff knowledge of paediatric trauma assessment and management. After this initial survey teaching focusing on paediatric trauma management within the department was delivered. Over the subsequent 6 months staff were invited to retake the survey following this intervention.



Results:

46 participants completed the initial survey, 15 were lost to follow up. Of those initially surveyed 27 (59%) of staff reported being comfortable with assessing the major trauma patient (MTP). Less than half (43%) reported they were confident with the management of MTP's. Following the teaching intervention this proportion considerably increased, with 77% (24) and 74% (23) reporting confidence in dealing with both MTP assessment and management respectively.

Higher proportions of participants demonstrated appropriate knowledge of c-spine management following intervention; initially 65% of staff identified isolated headblocks as the primary immobilization device in comparison to a neck collar or blocks and a collar. Following intervention 97% (30) identified they would use head blocks in isolation. There were higher reports of xray as the initial imaging modality in suspected c-spine injury, with 90% (28) selecting xray over ct as the initial imaging modality, compared to 57% (26) prior to the intervention. Staff reported greater awareness of clinical criteria for clinically outruling c spine injury (pre 78%[36] vs. post 97%[30]).

Conclusion:

Directed trauma teaching can considerably improve overall trauma assessment and management knowledge amongst staff. Future dedicated teaching programs could help further improve this knowledge, and improve management and assessment of the MTP.

Descending Necrotizing Mediastinitis: A Case Report

Dr Neil Kearney, Registrar, Tallaght University Hospital

Dr Victoria Meighan, Consultant, Tallaght University Hospital



Tallaght
University
Hospital

An Academic Partner of Trinity College Dublin

Ospidéal
Ollscoile
Thamhlachta

Introduction

Descending necrotizing mediastinitis is a rare and life-threatening complication of oropharyngeal infections. The mortality rate is 20-40%. Pharyngitis and odontogenic infections are commonly seen in the emergency department. The prompt recognition of patients with symptoms suggestive of deep infections is critical to improve outcomes.¹

Case Presentation

We present the case of a 32 year old male who attended our Emergency Department complaining of ten days of sore throat, fevers, odynophagia, dysphonia and retrosternal pain. Clinical examination revealed pharyngeal erythema, neck stiffness, and tender swelling of the neck descending to the level of the manubrium. There were no signs of airway compromise. He was tachycardic, febrile, diaphoretic and clinically hypovolaemic. Laboratory investigations revealed a CRP 390 and WCC 17.9. He was initially treated with IV crystalloids, IV Co-Amoxiclav and Metronidazole for severe pharyngitis with sepsis. An urgent CT neck with contrast revealed a severe diffuse inflammatory process involving the deep structures of the neck and a left-sided parapharyngeal collection at the level of C3 with large gas locules. These locules tracked inferiorly and appeared to terminate just before the anterior mediastinum. The patient underwent immediate operative drainage which revealed necrotic material in multiple deep neck spaces. Cultures demonstrated a polymicrobial infection of typical oral aerobes and anaerobes. A prolonged course of multiple antibiotic agents was commenced. Serial imaging showed further phlegmon formation extending to the mediastinum; left main bronchus and a left side pleural effusion. The patient underwent two further operative interventions. After a three week ICU admission he was transferred to an inpatient ward.

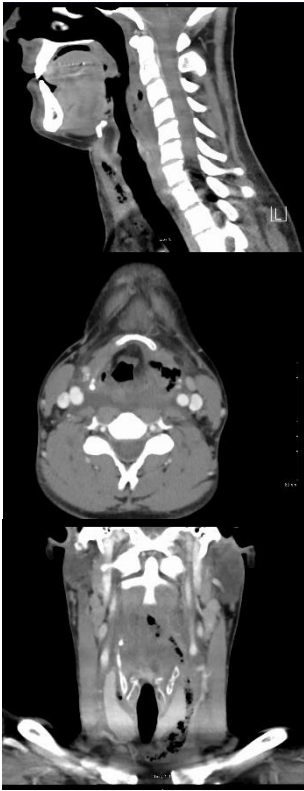


Figure 1: Note gas locules anterior and posterior to trachea

Figure 2: Left paratracheal abscess with gas locules and paratracheal oedema

Figure 3: Gas tracking down from left paratracheal abscess towards mediastinum

Discussion

Oropharyngeal infections commonly present to the emergency department. The majority of cases can be discharged following symptomatic treatment +/- antibiotic therapy. However, although rare, airway compromise and deep neck infections are potentially life-threatening complications. Awareness of the signs of these complications are important knowledge for all emergency physicians.

Airway Obstruction	Deep neck space infection
Muffled/"Hot potato" voice	Trismus or neck stiffness
Inability to swallow saliva	Bulging pharyngeal wall/uvular deviation
Stridor	Crepitus/Unilateral neck swelling
Tripod positioning	Elevation of the floor of the mouth
Respiratory Distress	Recent surgery/trauma to pharynx
Plan: Immediate ENT/anaesthetics review and consider high dose IV corticosteroids ²	Plan: Urgent Abx therapy and CT neck with early ENT involvement ³

References

- Palma et al., 'Clinical Features and Outcome of Patients with Descending Necrotizing Mediastinitis'.
- Chau et al., 'Corticosteroids in Peritonsillar Abscess Treatment'.
- Hurley and Heran, 'Imaging Studies for Head and Neck Infections'.



Tallaght
University
Hospital

An Academic Partner of Trinity College Dublin

Ospidéal
Ollscoile
Thamhlachta

MEDUCATE EM

ANNUAL SCIENTIFIC MEETING

April 24th



IEMTA