Emergency Care Institute
NEW SOUTH WALES

ACI NSW Agency for Clinical Innovation

HISTORY REPEATING ITSELF?

Learning from our Incidents:

RED FLAGS in the Emergency Department

The case

44yo female presented to ED with a three-day history of abdominal pain and vomiting.

Background included previous appendicectomy, similar episodes of self-limiting abdominal pain for which a cause remained undetermined. Reported pain usually occurred after eating food from takeaway outlets.

The case

Patient presented clutching her abdomen.

Triage nurse noted abdominal tenderness / bloating, but soft. Vital signs were as follows:

- *BP 165/105mmHg*
- *HR 124/min*
- *RR 36/min*

What concerns you about the patient's presentation?

The case

Patient given IV fluids for rehydration and morphine for pain relief. These had good effect, and vital signs improved to be within acceptable parameters.

X-Rays arranged – inconclusive.

The case

Seen by medical officer. Pain described as similar to previous presentations.

Provisional diagnosis: Gastroenteritis/Colitis in keeping with patient's past history.

Management plan: monitor fluid balance, CT abdomen, nasogastric tube (NGT) insertion.

Do you agree with the patient's provisional diagnosis and management plan?

The case

Patient declined NGT insertion and her wishes were respected as there was no active vomiting.

CT delayed and ultimately postponed until the following day.

Patient remained in the ED overnight whilst waiting for CT to be performed, during which time observation frequency is changed from hourly to fourth hourly.

The case

The next morning, CT abdomen demonstrated significantly distended fluid filled bowel loops with collapsed loops of distal and terminal ileum.

On return to ED, patient noted to be diaphoretic and pale. She vomited and progressed to cardiorespiratory arrest. CPR commenced with eventual return of spontaneous circulation.

The case

Following multiple operations and prolonged period on life support, patient died.

Cause of death: **aspiration pneumonitis secondary to small bowel obstruction/necrosis caused by stricture**.

What is the lesson here?

Any patient who re-presents from any site of medical care (not just ED) for the same problem should not be dismissed.

ACI NSW Agency for Clinical Innovation

Emergency Care Institute NEW SOUTH WALES

What is the lesson here?

Ask the patient: “Have you seen a doctor or been to an ED for this problem before?”

If so, and over a short space of time, this is a RED FLAG.

What's the evidence?

- In their systematic review, LaCalle *et al*.[1] concluded that **frequent ED users tend to be sicker that occasional users**, and are often sick patients with chronic illness associated with high admission rates and high mortality.

- In an Australian study, Jelinek *et al*.[2] found patients attending ED 5-19 times per year were more likely to have conditions of greater urgency and higher admission rates. Representing 97.4% of frequent attenders at Perth EDs over a 6.5 year study period, these patients often required inpatient management and were sicker than the average ED patient.

What's the evidence?

- Salazar *et al*.[3] studied the clinical course of frequent ED users in Barcelona, finding a high mortality rate of 18.6% over a one-year period.
- In Massachusetts, frequent users were more likely to die during a visit or subsequent admission than were infrequent users (2.6% v. 1.1%)[4].
- **This evidence suggests that patients who present to ED on a frequent basis are a medically vulnerable group.**

What's the evidence?

- Contrary to popular belief, the majority of the presentations by the heaviest users of an ED in a city teaching hospital are not suitable for general practice[5].
- When a patient makes a repeat visit for the same complaint, this should trigger clinicians as high ED use has been found to be linked to higher severity of medical conditions[3].

References

1. LaCalle, E., Rabin, E. *Frequent Users of Emergency Departments: The Myths, the Data and the Policy Implications*. Annals of Emergency Medicine, 2010. 56 (10): pp. 43-48.
2. Jelinek, G.A., Jiwa, M., Gibson, N.P., Lynch, A. *Frequent attenders at emergency departments: a linked-data population study of adult patients*. Medical Journal of Australia, 2008. 189 (10): pp.552-556.
3. Salazar, A., Bardes, I., Juan, A. Olona, N. Sabido, M., Corbella, X. *High mortality rates from medical problems of frequent emergency department users at a university hospital tertiary care centre*. European Journal of Emergency Medicine, 2005. 12: pp. 2-5.
4. Fuda, K.K., Immekus, R. *Frequent Users of Massachusetts Emergency Departments: A Statewide Analysis*. Annals of Emergency Medicine, 2006. 48(1): pp. 1-16
5. Dent, A.W., Phillips, G.A., Chenhall, A.J., McGregor, L.R. *The heaviest repeat users of an inner city emergency department are not general practice patients.* Emergency Medicine (Fremantle), 2003. 15 (4): pp.322-329.

Another case

42yo male referred by GP with generalised abdominal pain, 3-day history of fever, nausea and diarrhoea.

At triage, observations:

- *HR 125/min*
- *T37C*
- *BP 142/88mmHg*

Another case

Patient reviewed by registrar, with physical examination findings of mild tenderness to right iliac fossa on deep palpation.

Impression: Acute gastroenteritis

Differential diagnosis: Appendicitis

Patient given IV fluids and analgesia.

Another case

Repeat observations:

- *HR 112/min*
- *BP 121/87mmHg*
- *T38C*
- *RR 16/min*

Another case

Two hours later, blood results revealed elevated WCC (10.9), CRP (236.9) and lactate (2.6).

Observations at this time:

- *HR 91/min*
- *BP 130/90mmHg*
- *T36.7C*

Another case

Patient was now pain-free. Decision made to discharge the patient home, with specific instructions given to return to ED if not improving.

Another case

The next day, the patient re-presented to ED complaining of ongoing diarrhoea but no abdominal pain.

A second registrar assessed the patient and found no abdominal pain and active bowel sounds. CRP had decreased to 141 and WCC had normalised. Abnormal LFTs were noted.

Another case

Given diagnosis of viral hepatitis.

Following discussion with Gastroenterology Registrar, a plan was made to discharge the patient home and outpatient abdominal ultrasound and follow-up arranged.

Another case

The next day, the patient re-presented again with ongoing complaints of diarrhoea.

Observations:

- *HR 110/min*
- *BP 140/100mmHg*
- *T36.6C*

Another case

Reviewed by a third registrar, who found no significant physical examination findings. Further decrease of CRP noted. Patient was admitted to the Emergency Medical Unit (EMU) for overnight observation.

Received IV saline and metoclopramide for nausea. Stool sample sent.

Another case

Patient afebrile and haemodynamically stable overnight .

Reviewed the next morning by an ED consultant, who discharged the patient home.

Another case

The next morning, the patient re-presented after being referred by GP for further investigation of ongoing diarrhoea and vomiting.

Observations at triage:

- *HR 120/min*
- *T37.1C*

Another case

Reviewed by JMO, who found abdominal distention, nil tenderness and high-pitched bowel sounds.

AXR ordered, which showed: **dilated loops of bowel consistent with bowel obstruction, no free air below diaphragm.**

Another case

Patient was reviewed by a surgical registrar, and had a CT performed, showing **perforated acute appendicitis with an associated periappendiceal abscess and a secondary small bowel ileus.**

Another case

Twenty-five days after initial presentation to ED, patient was discharged home following admission involving a right hemicolectomy with formation of ileostomy due to faecal peritonitis, prolonged administration of IV antibiotics, and commencement on total parenteral nutrition.

Access the ECI Clinical Tool:

Acute Abdominal Emergencies

http://www.ecinsw.com.au/node/429

ACI NSW Agency for Clinical Innovation

Emergency Care Institute NEW SOUTH WALES

Any patient who re-presents from any site of medical care (not just ED) for the same problem should not be dismissed.

ACI NSW Agency for Clinical Innovation

Emergency Care Institute NEW SOUTH WALES