

SCENARIO – The patient in acute postoperative pain

Notes for the instructor – not volunteered to students

15 minutes have been allocated to the running of the scenario with an additional 5 minutes for discussion of relevant points at the end. Timings are very tight so please try not to over-run.

Please do not tell the students the diagnosis until the scenario is over (unless they are struggling significantly)

This scenario is intended to demonstrate the management of acute post operative pain. The students will be in groups of 5-6. Pick a lead student who will be the doctor and a helper who will be a High dependency nurse. As the scenario is running, try to leave them to assess and treat the patient as much as possible. You will require to tell them the results of any observations they ask for e.g. heart rate, blood pressure, respiratory rate, oxygen sats epidural block height, epidural chart, observation chart but only if they measure it or ask for it.

In the first instance it is very important that the students should behave in a professional manner throughout. This includes their conduct towards the actor and adhering to infection control measures e.g. hand washing.

Aim to involve all the students in the group in doing something. The ones not actively involved in assessment and treatment could make suggestions regarding management if the lead student is struggling. They should be asked to pay attention to the running of the scenario and make suggestions afterwards about what went well and what could have been better. They can also be involved in discussing the epidural chart, observation chart, drug prescription chart, clinical findings and should take a main part in the post-scenario discussion.

Aim for this to occur in 'real time'. If they ask for a blood pressure reading, they should go through the motions of taking it before you tell them the results. They may get too involved in taking a history rather than performing 'hands on' interventions. Try to make sure that they understand that a history is important but can be done at the same time as the examination.

Brief to actor – not volunteered to the students

You are a 60 year old shop owner who have had a laparotomy (bowel operation) for diverticular disease. It was an elective procedure and except for high blood pressure you are fit and well. You are on a Bendrofluazide for your blood pressure but manage your shop and can walk a couple of miles without any problems. You are a heavy smoker.

You had your operation under general anaesthetic earlier today and initially you weren't in pain. As discussed preoperatively the anaesthetist had put in an epidural. Over the last 3 hours you have been experiencing more pain- mainly on the left side of your abdomen.

At first when the student approaches, you are monitored and wearing a face mask. You are very sore on your left side when you are sitting still in bed and excruciating pain when you try to move or cough. You are grimacing, breathing fast, with your arm over your left side. You say you thought the epidural would take away all the pain and this pain is worse than any you experienced from your diverticular problems. You tell the student that you would do anything to get rid of the pain.

The student will do a brief examination of you chest and abdomen. Your abdomen is sore to touch on the left. Cry out when you're asked to move. The student should try to assess whether your epidural is functioning or not with a cube of (fake) ice/ a cold spray. You can feel cold on your left. On the right you cannot feel cold up to just above your navel.

The student will subsequently make a plan for your pain control. Nothing helps until they give you painkiller into your drip and give you a morphine pump (PCA-Patient controlled analgesia pump). They should explain to you how to use it. If not ask them how it works, if you can get addicted to the morphine or if you can overdose on it as you saw a TV programme on drug overdoses.

About 2 min after you press the PCA button you complain of feeling sick, ask for a sick bowl and vomit. The student should again manage this and after intravenous treatment it will subside.

The student should throughout explain the examinations and changes to your management. If the students ask you any question you are unsure how to answer, the instructor will provide a prompt. In the worst case scenario, if no treatment is initiated, you become agitated and insist to see senior medical staff. The instructor will not let the students do anything unpleasant to you. If at any time, you are in discomfort, raise your hand and the scenario will be stopped

Brief to students

You are the doctor covering the high dependency unit in your hospital. The nurse has asked you to see a 60 year old gentleman who had a laparotomy earlier today. Initially he had good analgesia via his epidural but he is now complaining of increasing pain on his left side and becoming more distressed. You have a high dependency nurse to assist you and further information will be given as you request it.

Scenario

Remember professional conduct and hand washing

1. ABC assessment of patient

Airway and breathing

The patient RR=24/ min, Sats= 97% on 4litres O2/ min, shallow breathing but no added sounds, poor cough.

Circulation

The patient is monitored with HR= 110 (sinus rhythm), non invasive blood pressure(if requested) 162/ 80, normal heart sounds and CRT. Slightly clammy skin. Good urine output. If asked for provide them with an observation chart. Abdomen is difficult to assess due to pain but no rebound or signs of peritonitis. End to end anastomosis, no stoma or drains.

Disability

Full orientated.

Do not allow them to spend too much time doing this. If they ask for an observation chart it will include a recent set of observations which will confirm the above. It is essential that they move onto the pain assessment and management

Learning points

- ❖ *Pain can have a knock on effect on some or all of the following and the general examination would indicate the impact of the poor pain control.*
- ❖ *Although this is a 'pain scenario' the student should still assess the vital signs as severe pain can be due to a surgical cause e.g. anastomotic breakdown with sepsis, haemorrhage and hypovolemia.*

2. Pain examination:

Pain will have the following characteristics:

- Left more than right
- Continuous at rest
- Severe with movement
- Sharp
- Poor cough

Epidural function:

- Assess block height with ice/ ethyl chloride spray: Right T8 Left No block
- Infusion of local anaesthetic only (bupivacaine 0.125% at 8 ml/hr)
- Epidural chart provided on request
- Look for previous block height, top ups.
- Drug prescription sheet provided on request. Look for additional analgesia e.g. regular Paracetamol and Diclofenac prescribed and given.

Anaesthetic sheet provided if requested: easy to inset 5cm to space and 4cm in space.

Could suggest examination of epidural site to see if leakage or dislodged but patient too sore to move/ cooperate.

Learning points

- ❖ *Different scoring systems for pain e.g. verbal numerical score or verbal analogue score*
- ❖ *Indication for epidural. Heavy smoker with laparotomy so potentially decrease the incidence of post operative respiratory infection. Merit in attempting top up as previously effective pain relief.*
- ❖ *Communication with the patient is essential. Patient not only in pain but also loss of confidence as 'failed' analgesia.*
- ❖ *Dermatome levels for laparotomy analgesia*

3. Epidural top up

They should realise by now that the epidural is providing insufficient analgesia and suggest a top up. The best choice would be a local anaesthetic top up e.g. 5- 10ml of 0.25% plain bupivacaine.

Most would and should not be able to give the top-up themselves and may ask for an anaesthetist to do it. You will take over this role, perform the top-up but then get called away again.

The student need to discuss with the nursing staff which observations and their frequency to be done after and epidural top up including BP, motor and sensory function.

Learning points

- ❖ *Safety measure include: aspirate before inject checking for blood or cerebrospinal fluid.*
- ❖ *Opioid top up not appropriate as need to increase block height with local anaesthetic*
- ❖ *Monitoring: frequent blood pressures, ECG*
- ❖ *Resuscitation drugs available if needed.*
- ❖ *Intravenous access and fluids infusing.*
- ❖ *Little benefit in changing position to left lateral*

4. Reassess

Another student should be given the opportunity to reassess the patient and continue the scenario.

No improvement in pain scores. They need to reassess the block height. As the top up didn't help the next step is using intravenous analgesia. The best choice is intravenous morphine. At first incrementally with 2mg boluses and then establish patient on PCA (Patient controlled analgesia). They need to explain how to set up a PCA (1mg bolus and 5in lockout without a background infusion). Before prescribing PCA they should discuss

with the nursing staff what observations they need done at what intervals including: sedation scores, itch scores, pain scores, respiratory rate, heart rate and oxygen saturation.

Learning points

- ❖ *Time to peak effect for IV morphine is up to 10- 15 min, so they will need to reassess and slowly titrate to effect.*
- ❖ *Incremental doses e.g. 2mg IV*
- ❖ *PCA safety features and benefits*

5. Reassess and manage side effects of IV opioids

They need to reassess the patient continuously. The observations are now as follows:
Airway and breathing: R/R 11/min, O2Sats 98%, good breathing effort, improved cough
Circulation: H/R 78 beats/ min, NIBP 120/ 65, not clammy anymore
Disability: Asleep but rouses to voice

Pain scores are:
Static: 1 (Mild)
Dynamic: 1 (Mild)

The patient vomits and should now proceed to manage this. It can be a sign of hypotension so reasonable to ask for another blood pressure reading which is 145/ 70. They should choose an intravenous antiemetic for instance 5HT3 antagonist e.g. ondansetron and prescribe it on the drug chart as this side effect might persist.

Learning points

- ❖ *The aim is not to have a pain free patient but rather a comfortable patient who is able to ambulate and expectorate.*
- ❖ *Aim to use the same pain scoring system throughout to enable you to compare improvement.*
- ❖ *Scoring system for nausea and vomiting available*
- ❖ *Fine balance between achieving analgesia and experiencing side effects. Manage the latter as appropriate but be careful not to reverse analgesic effects.*

6. Further management

Should suggest follow up by the Acute Pain team services. Also needs to make a decision about the epidural. As it is providing some analgesia on the right side it is reasonable to continue the infusion and use the PCA as supplement.

Learning points

- ❖ *When is it safe to remove an epidural catheter e.g. in relation to low molecular weight DVT prophylaxis dose (wait 12 hours before removing the catheter and only give dose 3-4 hours after removal)*

Discussion:

Despite the increase in Acute Pain Services it is still an issue that is frequently poorly managed. It is important to stress the knock on effects of poor analgesia especially the increased stress response and potential for respiratory tract infections. The psychosocial aspects shouldn't be underestimated and establishing rapport and (re)gaining the patient's confidence is crucial.

Important points to emphasise include:

- ❖ Assessing the patient as a whole and focussing on the pain assessment.
- ❖ Reassessment is vitally important as this allows you to decide whether you have managed the pain problem successfully or need to consider another avenue.
- ❖ Each intervention has potential side effects whether it be epidural top ups or intravenous opioids. Reassessment should include looking for these. There is no substitute for meticulous preparation and attention to safety issues.

OTHER ISSUES IF TIME ALLOWS

- ❖ Definition of pain
- ❖ Types of pain namely nociceptive versus neuropathic
- ❖ Other scoring systems for pain e.g. in children visual analogue scales
- ❖ Risks of epidural e.g. hypotension, motor block, urinary retention, postural puncture headache, nausea and vomiting and itch (latter if ropivacaine is used). Rare risks include vertebral canal haematoma, infection and abscess formation, nerve damage and paralysis.
- ❖ Safety features of PCA.
- ❖ Choice of intravenous opioid and dose (average first 24 hour morphine requirement in mg for patient over the age of 20 years = 100 – (age of patient in years)).
- ❖ Management of other opioid side effect e.g. pruritis, urinary retention, sedation, respiratory depression, constipation and delayed gastric emptying.
- ❖ Multimodal approach to prescribing analgesia