LEAKING AAA

MODULE: GENERAL SURGERY, VASCULAR

TARGET: CT1 – ST4

BACKGROUND:

Vascular services in the UK have been centralised to regional centres. In addition, vascular surgery has split into a separate specialty stream meaning that general surgical trainees will not be involved with the care of vascular patients on a regular basis. Due to this lack of exposure, early recognition and initial treatment of a patient with an acute vascular problem, may become more difficult for the junior trainee. A leaking aneurysm is absolutely time critical and prompt referral to the regional vascular centre is imperative. Simulation provides the opportunity to target specific clinical areas in which there may be lack of exposure or diminished expertise. Junior surgeons may be involved in referral telephone calls to the receiving vascular centre and it is essential that they receive training in making this referral - the information that will be required and an ability to convey the level of urgency of the transfer.

RELEVANT AREAS OF THE CURRICULUM

Module 2: Common surgical conditions

Presenting symptoms of aneurysmal disease

Module 4: The assessment and management of the surgical patient

Surgical history and examination
Construct a differential diagnosis
Plan investigations
Clinical decision making
Teamworking and planning
Case workup and evaluation; risk management

Interactive clinical communication skills: patients
Interactive clinical communication skills: colleagues

Professional behaviour and leadership skills

To be a good communicator
To understand and manage people and resources within the health environment
INFORMATION FOR FACULTY

This scenario requires a REAL patient not an actor for it to work best. It is possible to find a willing patient, particularly if they are currently on the waiting list for aneurysm repair. We ran this simulation at the regional vascular centre which allowed the patient to familiarise themselves with the ward. It was also an opportunity for the patient to learn more about his condition.

NB. There is no evidence that repeated examination by medical staff increases the risk of rupture of the aneurysm.

It is important to meet with the patient in advance to explain firstly exactly what the simulation day will involve and also to explain very carefully the symptoms that they would be reporting.

Our experience was that it was probably best NOT to involve the patient in giving direct feedback to the doctors as they were not trained de-briefers (all of the actors used in our program were trained as educationalists and were skilled in debriefing).

LEARNING OBJECTIVES

- To be able to formulate a clear list of differential diagnoses from the given history
- To clinically suspect a AAA in a male middle aged patient presenting with abdominal pain
- To rationalise the best form of imaging and be able to discuss this with a radiologist
- To discuss the pathology (AAA) found with the patient
- To communicate with patient need for emergency transfer to a regional vascular centre
- To make a referral via telephone to the vascular registrar

SCENE SETTING

Location: Clinical Decision Unit

Can use a dedicated SimSuite or other distributed simulation system

Expected duration of scenario: 30 mins  Expected duration of debriefing: 20 mins

EQUIPMENT AND CONSUMABLES

- DS ‘igloo’
- DS ‘A&E Resus backdrop screens x2’
- DS ‘Simulated Anaesthetic machine’
- Patient bed
- Oxygen mask with reservoir bag
- Sats probe
- BP cuff
- Tourniquet
- Venous cannulae plus cannula dressing
- Blood bottles
- Blood forms
- Catheter and urometer bag
- Stethoscope

PERSONNEL-IN-SCENARIO

- Ward nurse
- F2 doctor
- Consultant radiologist
- Vascular surgeon
- Patient (WITH A KNOWN STABLE AAA)
Metal bedside trolley
Patient notes
Normal ECG
Make-up artist to make the patient white and sweaty
(possible to DIY with vaseline and light coloured powder foundation)
Patient hospital gown
Patient ID wrist band
Hospital bed linen
2 x 1L bags Hartmanns
2 x 1L bags 0.9% NaCl
2 units ‘O’ neg blood
Giving sets
Pressure bag
Imaging of a ruptured aneurysm - ideally on a computer with PACS
Normal CXR
Normal AXR
Either SimMan obs or IPAD with Cardiac parameter app plus IPOD controller eg. SimMonitor

PARTICIPANT BRIEFING

The F2 doctor has seen and clerked in a patient with abdo pain. They have asked you to come down to CDU to review the patient.

FACULTY BRIEFING

PATIENT BRIEFING

You are Derek Branning 02/11/46 (can change these details but probably best not to use the patients own name and exact date of birth - it must match the notes!)

Last night you began to develop lower abdominal pains. They are dull and ache. Bowels haven't worked since the onset of the pains.
You feel nauseated but have not been sick.
At home you felt lightheaded with the pain and fainted when you stood up from the sofa to get into the ambulance.
You have some pain in your lower back but you have been getting pain there for the last 3 month, the GP said it was wear and tear on the spine

For your age you are pretty fit. Never had any heart trouble.
You take atenolol for blood pressure and simvastatin as your cholesterol levels have been a bit high.

Last November you had some similar pains in your lower abdomen and were seen at the hospital and treated for diverticulitis with antibiotics. You subsequently had a flexible telescope test as an outpatient and this confirmed diverticular disease. Your GP suggested a high fibre diet for this.

You do not have any allergies.
You have clerked in Derek Branning a middle aged gentleman who has presented with lower abdo pain - worst in LIF.

You present to the Core trainee:

This is Derek Branning a 67 year old man who presents with a 12 hour history of LIF pains - constant in nature. No associated change in bowel habit, nausea but no vomiting. No dysuria or frequency. No fevers at home. He had a similar episode last November treated with antibiotics. He had a flexi sigi as an outpatient which confirmed diverticular disease. Normally fit and well - treated for hypertension and high cholesterol with atenolol and simvastatin. No allergies. The nurse put him on a monitor because he fainted on the way into the ambulance. His ECG is fine. On examination he is currently afebrile. Heart rate 90/min Blood pressure 120 / 85 Tender in LIF, no guarding, no blood on digital rectal examination.

I've treated him for diverticulitis with iv Co-amoxiclav and iv fluids, asked the nurse to watch his urine output, haven't catheterised and said sips water by mouth only.

EXAMPLE OF SIMULATION SET UP
CONDUCT OF SCENARIO

INITIAL SETTINGS

Initial Settings
A: No problems – talking
B: RR 20/min Sats 99%
C: HR 92/min BP 130/90
D: Alert

EXPECTED ACTIONS

Core trainee examines patient the next stage is dependent upon their findings

DETECTS AAA

Trainee detects AAA and requests CT scan

Detects AAA

These results become available after core trainee has examined:
Lab rings through creatinine is 260 Urea 7.0
No lab haematology yet
If ABG is requested Hb 10.9 Lactate 2.1 BE -4
Other values within normal range depending on whether patient on O2 or not

Referral to vascular surgeon

DOES NOT DETECT AAA

A: No problems – talking
B: RR 22/min Sats 99%
C: HR 105/min BP 90/60
D: Alert
F2 puts bed flat as patient reports feeling faint - may suggest CT scan to exclude perf

CT done shows large aneurysm with thrombus
If trainee does not recognise this then radiologist rings through with verbal report
DEBRIEFING

Debriefing to be led by external observer surgeon faculty

Debriefing input from Vascular registrar (in scenario personnel) receiving the phone referral
Debriefing from radiologist

POINTS FOR FURTHER DISCUSSION

Discuss how the trainee communicated the diagnosis to the patient and how they explained why they needed an urgent transfer
Cross match blood early
Indications for CT scan, USS– sensitivity and specificity
Beware Beta blocked patient
Check for any previous cross sectional imaging
Family history
Vascular registrar will want to know cardiac history, respiratory history and functional status.
KEY POINTS

• Aortic aneurysms may leak into the surrounding tissues, causing pain in the abdomen and back, often with shock (cold, clammy, low blood pressure), or they may rupture disastrously, causing sudden death. Beware the patient presenting with ‘diverticulitis’ or ‘renal colic’

• Leaking aneurysms can be difficult to feel, especially in obese or stocky people, and may be confused with other conditions that cause abdominal and back pain; a scan may be needed to make the diagnosis

• Operations for ruptured aneurysms are very major and complex. Problems such as failure of normal blood clotting, heart failure, respiratory failure and kidney failure can all occur. Particularly when these occur in combination (‘multiple organ failure’) patients are likely to die

• Considerate but difficult decisions need to be made about not operating on patients who are unlikely to survive, especially if their quality of life is very poor

• Full recovery may take a long time after such major surgery, but in the longer term life expectancy is restored by treatment of the aneurysm

WORKPLACE-BASED ASSESSMENTS

This case may be suitable for a CBD
# Case-Based Discussion (CBD)

<table>
<thead>
<tr>
<th><strong>Trainee</strong></th>
<th><strong>Assessor</strong></th>
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<tbody>
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<td>Name:</td>
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<td>GMC number:</td>
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<td>Specialty:</td>
<td>Position:</td>
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<td>Gen</td>
<td>Hospital:</td>
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<td>Neuro</td>
<td>Institutional e-mail:</td>
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<td>OMFS</td>
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<td>Paed</td>
<td>Clinical setting (e.g. Outpatients):</td>
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<td>Plast</td>
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**Summary of the clinical problem:**

- **Focus of encounter:** Medical record keeping ☐, Clinical assessment ☐, Management ☐, Professionalism ☐
- **Complexity of the case:**
  1. Appropriate for early years training
  2. Appropriate for the completion of early years training or early specialty training
  3. Appropriate for the central period of specialty training
  4. Appropriate for Certificate of Completion of Training (CCT)

**ASSESSMENT RATINGS**

Your assessment ratings should be judged against the standard laid out in the syllabus for the trainee's stage of training:

<table>
<thead>
<tr>
<th>How do you rate this trainee in their:</th>
<th>Outstanding</th>
<th>Satisfactory</th>
<th>Development required</th>
<th>Not assessed</th>
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</thead>
<tbody>
<tr>
<td>1. Medical record keeping</td>
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<td>2. Clinical assessment</td>
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<td>3. Diagnostic skills and underlying knowledge base</td>
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<td>4. Management and follow-up planning</td>
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<td>5. Clinical judgement and decision making</td>
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<td>6. Communication and team working skills</td>
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<td>7. Leadership skills</td>
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<td>8. Reflective practice/writing</td>
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**FEEDBACK:** Verbal feedback is a mandatory component of this assessment. Please use this space to record areas of strength and suggestions of development which were highlighted during discussion with the trainee:

**GLOBAL SUMMARY**

After summarising the discussion with the trainee in the box above, please complete the overall level at which the Case-Based Discussion was performed on this occasion, if there was sufficient evidence to make a judgement:

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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<td>0</td>
<td>Below that expected for early years training</td>
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<td>1</td>
<td>Appropriate for early years training</td>
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<td>2</td>
<td>Appropriate for completion of early years training or early specialty training</td>
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<td>3</td>
<td>Appropriate for central period of specialty training</td>
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<td>4</td>
<td>Appropriate for Certificate of Completion of Training (CCT)</td>
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**Time taken for observation (mins):**

**Time taken for feedback (mins):**

**Date:**

**Trainee’s signature:**

**Assessor’s signature:**

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October 2010 v2

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Editor: Dr Andrew Darby Smith
Original Author: Ms A Cope
PARTICIPANT REFLECTION

What have you learned from this experience? (Please try and list 3 things)

How will your practice now change?

What other actions will you now take to meet any identified learning needs?
## PARTICIPANT FEEDBACK

Date of training session:..........................................................................................................................

Learner grade:..................................................................................................................................................

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<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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<td>I found this scenario useful</td>
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How could this scenario be improved for future participants? This is especially important if you have ticked anything in the disagree/strongly disagree box.

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What went particularly well during this scenario?

What did not go well, or as well as planned?

Why didn’t it go well?

How could the scenario be improved for future participants?