

Surgical strategy

Justin Davies

Learning objectives

- ✓ To understand the principles of taking a clear history, performing an appropriate examination, presenting the findings and formulating a management plan for diagnosis and subsequent investigations and treatment.
- ✓ To understand the common nomenclature used in surgery.

The principles of assessing patients referred to a surgical team has changed little in recent times. These include:

- 1 *Taking an accurate history.*
- 2 *Examination of the patient.*
- 3 *Accurate and contemporaneous documentation (written and/or electronic).*
- 4 *Constructing a differential diagnosis.* Ask the question 'What diagnoses would best explain this clinical picture?'
- 5 *Special investigations.* Which laboratory and imaging tests are required to confirm or refute the clinical diagnosis?
- 6 *Management.* Decide on the management of the patient, including provision of adequate analgesia. Remember that this will include reassurance, explanation, and good communication skills.

investigations and extensive imaging may be unnecessary. It is important to remember that the patient may be apprehensive and will often be in pain, especially when presenting as an emergency. Attending to these issues is an especially important aspect of good clinical care.

The history

The history should be an accurate reflection of what the patient has said. It is important to ask open questions such as 'When were you last well?' and 'What happened next?' rather than closed questions such as 'Do you have chest pain?' If you have a positive finding, it is important to explore this further with more directed questioning, for example, 'When did it start?' 'What makes it better, and what makes it worse?' 'Where did it start and where did it go?' 'Did it come and go, or was it constant?' If the symptom is characterized by bleeding, ask about what sort of blood (e.g. fresh, bright red, dark red), when it started, how much, whether there were clots, whether it was mixed in with food/faeces and whether it was associated with pain. Remember that most patients come to see a general surgeon, particularly in the emergency setting, because of abdominal pain or bleeding (Table 1.1). You will need to find out as much as you can about the presenting symptoms.

Keep in mind that the patient may have little accurate anatomical knowledge. They might say 'my stomach

History and examination

Development of clinical skills is of paramount importance in all aspects of medicine and surgery. In some circumstances, excessive reliance on special

Table 1.1 Examples of important facts to determine in patients with pain and rectal bleeding

Pain	Rectal bleeding
Exact site	Estimation of amount (often inaccurate)
Radiation	Timing of bleeding
Length of history	Colour – bright red, dark red, black
Periodicity	Accompanying symptoms – pain, vomiting (haematemesis)
Nature – constant/colicky	Associated features – fainting, shock, etc.
Severity	Blood mixed in stool, lying on surface, on toilet paper, in toilet bowl
Relieving and aggravating factors	
Accompanying features (e.g. jaundice, vomiting, haematuria)	

hurts; but this may be due to lower chest or periumbilical pain – it is important to ask them to point to the site of the pain. Bear in mind that they may be pointing to a site of referred pain, and a vague description such as ‘back pain’ will need further exploration and clarification as to where it is in the back – the sacrum or lumbar, thoracic or cervical spine, or possibly the loin or sub-scapular regions. Exploring pain outside of the abdomen is important, particularly shoulder pain. This may, for example, suggest referred pain from the diaphragm or gallbladder.

It is often useful to consider the viscera in terms of their embryology. Thus, epigastric pain is generally from foregut structures such as the stomach, duodenum, liver, gallbladder, spleen and pancreas; periumbilical pain is midgut pain from the small bowel and ascending colon, including the appendix; suprapubic pain is hindgut pain, originating in the colon, rectum and other structures of the cloaca such as the bladder,

uterus and Fallopian tubes (Figure 1.1). Testicular pain may also be periumbilical, reflecting the intra-abdominal origin of these organs before their descent into the scrotum – this is exemplified by the child with testicular torsion who initially complains of pain in the centre of their abdomen.

The examination

Remember the classic quartet in this order:

- 1 Inspection.
- 2 Palpation.
- 3 Percussion.
- 4 Auscultation.

Careful inspection is always time well spent. Inspect the patient generally, as to how they lie and breathe. Are they tachypnoeic because of a chest infection or in response to a metabolic acidosis? Look at the

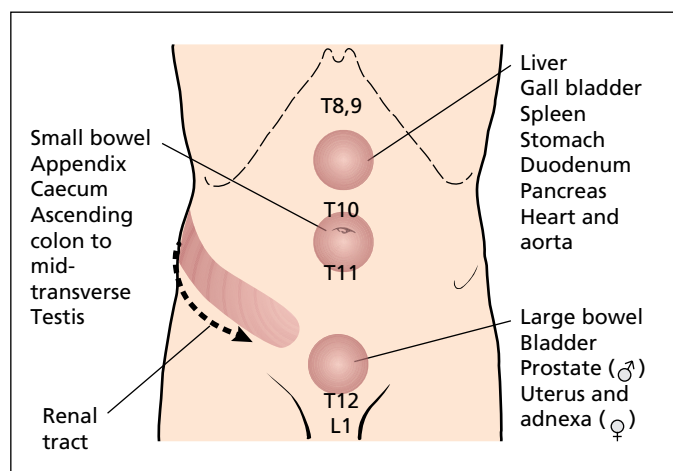


Figure 1.1 Location of referred pain for the abdominal organs.

patient's hands and feel the pulse. Asking the patient to walk may be revealing in someone with claudication or in assessment of general fitness.

Only after careful inspection should palpation start. If you are examining the abdomen in the emergency setting, it is important to ask the patient to cough. This is a surrogate test of rebound tenderness and indicates where the site of inflammation is within the peritoneal cavity. It is often helpful to examine the 'normal' or non-symptomatic side first, be it the abdomen, hand, leg or breast. Look carefully at the patient's face while you palpate, as this may provide subtle clues regarding discomfort or tenderness. If there is a lump, decide which anatomical plane it lies within. Is it in the skin, in the subcutaneous tissue, in the muscle layer or, in the case of the abdomen, in the underlying cavity? Is the lump pulsatile, expansile or mobile?

Documenting medical notes

We practice in an era where electronic patient records are becoming more commonplace, although currently the UK still has the majority of hospitals with paper-based medical records. The number with electronic records will continue to increase over time.

Always write or type your findings completely and accurately in a contemporaneous fashion. Start by recording the date and time of the assessment and check that you have the correct patient's notes open. Record all the negative as well as positive findings. Avoid abbreviations where possible since they may mean different things to different people; for example, PID – you may mean pelvic inflammatory disease, but the next person might interpret it as a prolapsed intervertebral disc. Use the appropriate surgical terminology (Table 1.2).

Table 1.2 Common prefixes and suffixes used in surgery

Prefix	Related organ/structure
angio-	blood vessels
arthro-	a joint
cardio-	heart
cholecysto-	gallbladder
coelio-	peritoneal cavity
colo- and colon-	colon
colpo-	vagina
cysto-	urinary bladder
gastro-	stomach
hepato-	liver
hystero-	uterus
laparo-	peritoneal cavity
mammo- and masto-	breast
nephro-	kidney
oophoro-	ovary
orchid-	testicle
rhino-	nose
thoraco-	chest
Suffix	Procedure
-centesis	surgical puncture, often accompanied by drainage, e.g. thoracocentesis
-desis	fusion, e.g. arthrodesis
-ectomy	surgical removal, e.g. colectomy
-oscopy	visual examination, usually through an endoscope, e.g. laparoscopy
-ostomy	creating a new opening (mouth) on the surface, e.g. colostomy
-otomy	surgical incision, e.g. laparotomy
-pexy	surgical fixation, e.g. orchidopexy
-plasty	to mould or reshape, e.g. angioplasty; also to replace with prosthesis, e.g. arthroplasty
-rrhaphy	surgically repair or reinforce, e.g. herniorrhaphy

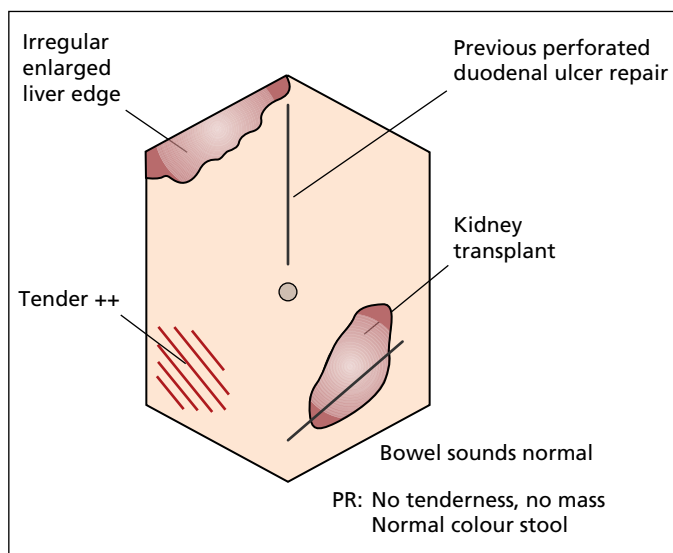


Figure 1.2 Example of how to record abdominal examination findings.

Illustrate your examination unambiguously with simple drawings when possible – use anatomical reference points and measure the diameter of any lumps accurately. When drawing abdominal findings, use a hexagonal representation (Figure 1.2). A continuous line implies an edge; shading can represent an area of tenderness or the site where pain is experienced. If you can feel all around a lump, draw a line to indicate this; if you can feel only the upper margin, show only this. Annotate the drawings with your findings (Figure 1.2). At the end of your notes, write a single paragraph summary and make a diagnosis or record a differential diagnosis. Outline a management plan and state what investigations should be done, indicating those which you have already arranged. Sign your

notes and print your name, position and contact details, with the time and date recorded.

Case presentation

The purpose of presenting a case is to convey to your colleagues the salient clinical features, diagnosis or differential diagnosis, management, and investigations of the patient. The presentation should ideally be succinct and to the point, containing important positive and negative findings. At the end of a case presentation, the listening team should have an excellent word picture of the patient and their problems, what needs to be monitored and what plans you have for management.