

7 ABDOMINAL PAIN, ABDOMINAL PAIN IN WOMEN, COMPLICATIONS OF PREGNANCY AND LABOUR

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Large numbers of patients with abdominal pain present to their general practitioners and emergency departments every year. Most require no specific medical intervention but some will require urgent hospital admission. The elderly and paediatric patient present particular challenges. The very young often give a poor history or can very quickly deteriorate. The elderly may have a very complicated medical history and misleading signs. A longitudinal study found that 50% of elderly patients (65 or over) with abdominal pain required admission.¹ Because of the difficulty of assessment in these groups of patients you should have a lower threshold for referral.

Abdominal pain has numerous causes but it is not necessary to reach a specific diagnosis. The aim is to decide on a management plan, to know when to monitor a patient at home, and to rule out the more serious pathology. Most patients can be adequately assessed by the simple techniques described and an accurate plan formed for the patients further management.

This article will focus on initial assessment and management and not on specific conditions. There are numerous texts that will give the basic outline of symptoms for different pathologies.^{2 3} More than 30 women die each year in the UK as a direct consequence of pregnancy. The Confidential Enquiry into Maternal Deaths 1997–99⁴ stated that “Women are still dying of potentially treatable conditions where the use of simple diagnostic guidelines may help to identify conditions such as ectopic pregnancy, sepsis and pulmonary embolism”.

Key points

- ▶ Abdominal pain is very common
- ▶ The very young and very old can present a specific challenge
- ▶ It is often unnecessary to make a diagnosis to plan your management
- ▶ In women of childbearing age always consider the possibility of pregnancy

OBJECTIVES

- ▶ Recognise the severely ill patient and manage appropriately
- ▶ Evaluate and manage stable patients
- ▶ Management of abdominal pain in women
- ▶ Management of pregnancy and its complications

THE PRIMARY SURVEY

All patients should be assessed using the ABCD approach. Abdominal pain can be immediately life threatening (primary survey positive). Such cases need to be identified early so that appropriate care can start immediately (box 1).

Box 1 Life threatening causes of abdominal pain

- ▶ Generalised peritonitis with shock
- ▶ Acute bowel obstruction
- ▶ Ruptured abdominal aortic aneurysm
- ▶ Acute mesenteric infarction
- ▶ Ruptured ectopic pregnancy
- ▶ Placental abruption and other complications of pregnancy
- ▶ Toxic shock syndrome

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One unusual cause of shock-like syndrome in pregnancy is supine hypotension. If a pregnant woman is laid on her back for a prolonged period the uterus obstructs the inferior vena cava resulting in a decrease in venous return, cardiac output, and hypotension. If the uterus is palpable above the umbilicus, lie the patient in the left lateral position.

Key point

- ▶ Do not lie a heavily pregnant woman on her back

Primary survey positive

These patients present in a variety of ways but airway and breathing assessment requires the same approach as in any other life threatening situation. Shock is the main immediately life threatening problem in patients with abdominal pain (box 2).

Box 2 Common presentations of "primary survey positive" patients

- ▶ Collapse
- ▶ Shock
- ▶ Rigid abdomen
- ▶ Heavy vaginal bleeding
- ▶ Complications of labour

Shock can be attributable to either hypovolaemia or sepsis. En route to hospital obtain intravenous access and draw blood for cross matching. Remember to complete the patient details on the blood specimen tube. No intervention should delay transfer to definitive medical care. Intravenous fluid resuscitation in abdominal haemorrhage should be based on the principle of *hypotensive resuscitation*, aiming to give enough fluid to maintain a radial pulse.⁵

Key point

- ▶ If the radial pulse is palpable, the blood pressure can be assumed to be adequate. If absent, aim to give fluid until radial pulse is palpable again.

These patients are likely to be in pain. Intravenous opioid analgesia may be given en route but monitor the blood pressure closely and titrate small doses in unstable patients. Evidence shows that pain relief does not affect subsequent clinical assessment and that it removes damaging physiological stresses and improves accuracy of examination.⁵

Key points

- ▶ Some causes of abdominal pain are immediately life threatening
- ▶ Treat as able but do not delay definitive transfer
- ▶ Fluids should be given based upon the principle of hypotensive resuscitation
- ▶ Intravenous opioid analgesia can be given to relieve pain

Box 1 summarises the most common life threatening problems. However, many common abdominal problems such as acute appendicitis can be life threatening if not promptly diagnosed and treated. This emphasises the importance of reassessment of patients with continuing or worsening symptoms.

Consider potentially serious medical conditions not directly related to the gastrointestinal tract that can also present as abdominal pain (box 3). A focused history and examination will help in identifying such cases (see below).

Box 3 Medical conditions presenting with abdominal pain

- ▶ Inferior myocardial infarction
- ▶ Pneumonia
- ▶ Pulmonary infarction
- ▶ Diabetic ketoacidosis
- ▶ Inflammatory bowel disease
- ▶ Pyelonephritis

Specific potential threats to life in women (see box 4)

Ectopic pregnancy classically presents with vaginal bleeding and abdominal pain, but there may also be associated internal bleeding that may give rise to shoulder tip pain. The degree of shock may be disproportional to the observed blood loss. The woman may be unaware of pregnancy and may not give a history of a missed period. These patients need fast transport to an appropriate unit. Obtain venous access en route if possible. Give enough fluids to maintain the radial pulse and high flow oxygen. Alert the receiving unit and ensure the gynaecologist is aware.

Box 4 Potential threats to life in women

- ▶ Ectopic pregnancy
- ▶ Incomplete miscarriage
- ▶ Genital tract trauma
- ▶ Pulmonary embolism
- ▶ Toxic shock syndrome

An incomplete miscarriage may result in products of conception caught in the cervix that leads to profound vagal stimulation with bradycardia and shock. These patients need urgent hospital admission because removal of these products will lead to a rapid clinical improvement and reduction in bleeding. Any tissue passed should accompany the woman to hospital.

Pulmonary embolism is still responsible for a number of maternal deaths. Have a low index of suspicion and refer pregnant women with shortness of breath or pleuritic chest pain.

Toxic shock syndrome is caused by invasive staphylococcal or streptococcal infections and is usually associated with tampon use. The picture is one of septicemic shock. Manage by fast transport, intravenous access en route, and oxygen.

Problems in later pregnancy

A number of complications of pregnancy pose potential threats to life, not only for the mother but also to the fetus (box 5). This is a very high risk area of practice where the inexperienced practitioner must ask for the patient to be reviewed by the obstetric team.

Box 5 Potential threats to life in late pregnancy

- ▶ Placental abruption
- ▶ Placenta praevia
- ▶ Pregnancy induced hypertension (pre-eclampsia and eclampsia)
- ▶ Pulmonary embolism

Placental abruption

This occurs when the placenta separates from the uterus before birth. There is constant severe pain, and the uterus usually will be rigid and with a sustained contraction. There may be vaginal bleeding but much of the blood is retained within the uterus so the degree of shock will usually be out of proportion to the amount of revealed bleeding. Rapid transfer to hospital is essential—with intravenous access and high flow oxygen. The receiving unit should be alerted as emergency caesarean section will probably be required.

Placenta praevia

This often presents with painless vaginal bleeding unless the patient is in labour. It is due to the placenta covering the internal part of the cervix. This can lead to catastrophic vaginal bleeding as the cervix dilates at the start of labour.

Pregnancy induced hypertension—pre-eclampsia and eclampsia

In early pregnancy the blood pressure is usually lower than normal. A blood pressure of 140/90 mm Hg might seem fairly normal but in a pregnant woman implies pregnancy induced hypertension until proved otherwise (see box 6).

Box 6 Symptoms and signs of severe pre-eclampsia

- ▶ Headache
- ▶ Visual disturbance
- ▶ Upper abdominal pain
- ▶ Generalised oedema
- ▶ Brisk reflexes
- ▶ Reduced urine output
- ▶ Blood pressure >140/90 or rise in diastolic from previous readings
- ▶ Ankle swelling
- ▶ Proteinuria

Pre-eclampsia is a condition specifically associated with pregnancy, usually but not always occurring in the late stages of pregnancy. Classically it presents with hypertension, proteinuria, and oedema. When the condition worsens the woman may complain of upper right sided or epigastric abdominal pain, headache, nausea and vomiting. She may become confused and have very brisk reflexes. Fitting can then follow. Unless the woman is a known epileptic, any fit in pregnancy is managed as a probable eclamptic fit. Fits attributable to eclampsia may pose significant airway problems. Manage these as in any other fit by simple airway manoeuvres. If the fit is not self limiting intravenous diazepam should be given supplemented by magnesium sulphate once the patient arrives in hospital. It is also essential to control the blood pressure as soon as possible. Urgent transfer to an obstetric unit is required.

EVALUATION OF THE STABLE PATIENT

If the primary survey shows no requirement for resuscitation then a secondary survey can be undertaken using the SOAPC system. History and examination has been shown to be very effective in distinguishing organic and non-organic causes of pain.⁷

Subjective information

The history is the most important aid in reaching a diagnosis. The correct questions can very quickly allow the assessor to

gauge the severity of the problem as well rule out the serious causes of abdominal pain.

The main questions are related to the pain (box 7), other symptoms, previous treatment, or medical contacts in this episode, as well as the standard past medical, drug, allergy, and social history.

Box 7 The questions that should be asked about the pain. "PQRST"

Pain related questions

- ▶ Provoking or palliative factors
- ▶ Quality—constant/colicky
- ▶ Radiation and site of pain, for example, shoulder tip
- ▶ Severity and systemic symptoms
- ▶ Timing—was onset sudden or insidious, did it change over time?

Pain—precipitating and palliative factors, quality, timing, and radiation

Precipitating and palliative factors may give important clues. The patient with peritonitis will usually lie still with movement or coughing worsening the pain. In contrast the patient with colic will often be restless, trying to find a comfortable position.

Quality—abdominal pain is commonly described as “peritoneal” or “colicky”. If the parietal peritoneum is aggravated then the pain will be well localised to the area of the pathology. In contrast, visceral pain tends to be poorly localised. Pain arising from foregut structures (mouth to the proximal half of the duodenum) is felt in the upper abdomen, pain from mid-gut structures (distal half of the duodenum to middle of the transverse colon) is felt around the umbilicus, and the hind gut (rest of colon to rectum) is felt in the lower abdomen.

Colicky pain is usually attributable to spasm of a tubular structure, often around a blockage. Colicky pain is therefore more commonly biliary, intestinal, or ureteric in origin.

Radiation of the pain may assist in diagnosis. Renal pain tends to radiate “loin to groin”. Diaphragmatic irritation, for example, ruptured ectopic, may radiate to the shoulder tip because of their common innervation (C3,4,5).

Systemic symptoms—(nausea/vomiting/urinary/gynaecological) symptoms may be helpful in diagnosis but can also be misleading. For example, constipation is associated with obstruction but is not always present. It is important to establish the patient’s normal bowel habit.

Diarrhoea is normal in gastroenteritis but may also be attributable to overflow related to chronic constipation, irritation of the pelvic peritoneum (for example, pelvic appendicitis) or partial obstruction. Faecal blood may indicate inflammatory bowel disease, cancer, or parasitic infection.

Urinary symptoms may suggest urinary tract infection (UTI) but not all UTIs cause abdominal pain.

In the female patient a menstrual history should be taken. Gynaecological causes should be considered. All women of child bearing age with abdominal pain who have missed period must have ectopic pregnancy excluded.

Timing—Pain with a sudden onset is probably an acute severe event, for example, ruptured aneurysm or perforated viscus. In contrast a gradual onset suggests an inflammatory or infective cause.

Pain may change over time, for example, appendicitis starts with a colicky periumbilical pain due to obstruction. This then leads to infection and a localised inflammation of the parietal peritoneum.

Medical history

If the patient has previously presented with the same problem it is important to keep an open mind. Diseases can progress, complications may arise, and the patient's condition change.

Medical history can reveal other abdominal problems or chronic illnesses (for example, angina) that may point you towards a diagnosis.

Certain drugs are associated with gastrointestinal side effects. Non-steroidal anti-inflammatory agents increase risk of peptic ulceration and bleeding. Many antibiotics cause diarrhoea and some can cause life threatening problems such as pseudomembranous colitis.

Key points

- ▶ A good history is your most important diagnostic tool
- ▶ Always repeat a full history even if the patient has been seen previously
- ▶ Do not forget gynaecological problems in the female patient

OBJECTIVE INFORMATION

This consists of examination and investigations on scene (if available or relevant) and is summarised in box 8.

Box 8 Summary of examination of patient with abdominal pain

Scheme for examination

General

- ▶ Posture—curled up/agitated (colic); flat/ bent knees (peritonism)
- ▶ Colour—pale; jaundice
- ▶ Vital signs
- ▶ Mouth (foetor), tongue, skin turgor for hydration
- ▶ Lymph nodes

Abdomen

- ▶ **Look**—distension, movement, flanks bruising
- ▶ **Feel**—evidence of peritonitis, pulses, hernial orifices
- ▶ **Listen**—bowel sounds
- ▶ Testicles
- ▶ PR/PV if appropriate (be cautious if no chaperone)

Other

- ▶ Respiratory system
- ▶ Cardiovascular system

Patient preparation

In an ideal setting, examination of the abdomen would entail ensuring that the patient is exposed from “nipple to knee”, and PR or PV examinations performed. However, it is very likely that these will be difficult and often impossible in the community setting. If carrying out a PR/PV examination, explain all stages to the patient and have a chaperone present at all times. Exceptions to this rule would be where the

patient is very unwell and there is an obvious clinical need, for example heavy PV bleeding or imminent childbirth.

Vital signs

Vital signs have been discussed in primary survey and are often the most sensitive indicators of a serious problem. It is unlikely that the normotensive, afebrile patient with a pulse rate of 80 has an immediately life threatening abdominal problem at the time of examination, but is no guarantee that such a condition may not develop.

Other general signs such as assessment of hydration and smelling the breath for foetor (sweet smell indicating ketosis) may help assess the general state of health.

The abdomen

The patient should be fully exposed within the boundaries of decency and careful inspection carried out.

Look especially for obvious distension, swellings, hernias, or other masses or scars of previous operations. The patient should be examined with the arms by the side so as to decrease abdominal wall muscle tension.

Ask the patient to take a deep breath and then to cough while observing the patient's reaction and abdominal movement. The patient with peritoneal irritation will avoid movement or the pain will be increased.

Feel—before palpating the abdomen ask the patient to point to the site of greatest pain and then start examination as far away from this point as possible. Initially use gentle, shallow palpation before palpating more deeply. In an area of specific tenderness due to peritoneal irritation there will usually be guarding—a spasm of the overlying abdominal muscles.

Percussion over the area of tenderness giving pain suggests peritoneal irritation. Testing for rebound tenderness is no longer considered appropriate.

Assess for organomegaly of the liver and spleen by always starting in the right lower quadrant and moving toward the hypochondria to avoid missing a grossly enlarged organ.

Murphy's sign is elicited by pressing the fingertips up towards the right costal margin and asking the patient to breathe deeply. If the gall bladder is inflamed, the patient will experience pain when breathing in as the gall bladder descends and comes into contact with the palpating hand.

Always assess the inguinal and femoral hernia orifices. Obstruction secondary to a strangulated or incarcerated hernia is a diagnosis often missed by inexperienced clinicians. It is usually appropriate at this point to assess the scrotum in the male.

Listen—auscultate for at least one minute in a single location. Absence of bowel sounds suggests significant pathology while high pitched tinkling sounds may also suggest obstruction.

Rectal and vaginal examination—in the community setting these examinations may be difficult. Unless they are likely to add useful diagnostic information that might prevent hospital referral, they should be omitted.

Abdominal examination is difficult in overweight, elderly, and paediatric patients, and those with a reduced conscious level. You need to take into account the less than ideal nature of your examination in the analysis of the problem.

Investigations

Investigations that may be of use in the community are urine dipstick testing for urinary tract infection or haematuria,

blood glucose testing in possible diabetic keto-acidosis, and a pregnancy test in any woman of childbearing age. This should be performed with patient consent. In atypical epigastric pain an ECG may be indicated.

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Key points

- ▶ Examination helps to refine your history diagnosis
- ▶ A structured examination will help avoid missing important information
- ▶ Do not forget the hernial orifices
- ▶ PR and PV should only be done if adding useful clinical information that may prevent hospital referral
- ▶ Consider near patient testing in selected cases

ANALYSIS

Certain symptoms are absolute indications for admission while others are more relative and rely on assessment and the degree of certainty about the diagnosis (see table 1).

In the woman of childbearing age, always consider the possibility of ectopic pregnancy. If there is any doubt discussion with the gynaecology team is mandatory.

Table 2 lists the common diagnoses in patients with acute abdominal pain and the "classic" signs and symptoms. However, many abdominal conditions can present in an atypical fashion also signs and symptoms may change. Thus, the need for a high index of suspicion.

Abdominal pain in women

The assessment principles are described above. The menstrual history must be taken and pregnancy or its complications always suspected (box 9).

Table 1 Absolute and relative indications for referral to hospital

Absolute	Relative
Primary survey positive	Uncertain diagnosis
Peritonitis	
Vital signs abnormal	Poor social circumstances/no supervision
	Fever of unknown origin
Definite diagnosis requiring admission	
Signs of obstruction	Very young
Suspected AAA	Very elderly
Unwell patient	Pregnancy
Opioid analgesia required	

Box 9 Important causes of abdominal pain in women

Common

- ▶ Urinary tract infection.
- ▶ Pelvic inflammatory disease.
- ▶ Dysmenorrhoea
- ▶ Labour

Uncommon

- ▶ Ectopic pregnancy
- ▶ Appendicitis
- ▶ Biliary colic
- ▶ Ovarian syndromes
- ▶ Miscarriage

Rare

- ▶ Ovarian hyperstimulation syndrome
- ▶ Curtis Fitzhugh syndrome
- ▶ Toxic shock syndrome

Table 2 Common diagnoses and their common presentation

Non-specific abdominal pain	Usually vague history of symptoms with non-specific triggers. Little to find on examination. Usually self limiting.
Gastroenteritis	If pain continues/worsens consider other diagnoses. Usually history of eating possible contaminated food/contact with other cases. Diarrhoea and vomiting classical.
Appendicitis	Usually self limiting.
Leaking aneurysm	Typically initial central vague pain that becomes localised to the right iliac fossa. Often associated with vomiting and anorexia.
Peptic ulcer	If acute rupture often sudden acute "tearing" pain or collapse. Pain radiates through to the back or groin, often with a palpable pulsating midline abdominal mass. May have history of known aneurysm.
Biliary colic and acute cholecystitis	Usually upper abdominal pain associated with eating. Perforation gives severe pain often through to back and peritonitis
Acute pancreatitis	Colicky right upper quadrant pain or epigastric pain often radiating to the back. In acute cholecystitis may be toxic and pyrexial with tenderness (Murphy's sign).
Acute intestinal obstruction	Often sudden onset of severe peritoneal pain in the upper abdomen, with signs of shock.
Renal colic	Classically constipation and vomiting. In a more proximal obstruction vomiting is the main symptom. There may be significant fluid and electrolyte losses.
Small bowel infarction	Usually sudden onset severe colicky pain in the loin with radiation to groin. Voltarol PO or PR is an effective analgesic. Beware of this diagnosis in the elderly patient. Patients with AAA often have haematuria.
	Acute, severe abdominal pain in the elderly, out of proportion to clinical signs often around RIF. Rapidly become hypovolaemic and shocked. May have history of colicky post-prandial abdominal pain or of atrial fibrillation.

Ectopic pregnancy

This is a diagnosis that should be considered in all women of reproductive age. Classically the patient will have lower abdominal pain, a history of a late or missed period, and signs of peritoneal irritation. Unfortunately the symptoms and signs may be misleading. You should have a high index of suspicion if the woman has a history of infertility, has missed a period while using an intrauterine contraceptive device, or has been sterilised. The management has been outlined in the section on primary survey.

Key points

Always consider the possibility of ectopic pregnancy in women with abdominal pain.

- ▶ If no history of missed period check if last period was normal (in time, duration and blood loss)
- ▶ Ask about contraception

Common problems

Cystitis is very common with classic symptoms of frequency and dysuria. Systemic symptoms such as nausea, vomiting, and fever are not usual in simple cystitis. The abdominal pain is less of a feature than the urinary symptoms and the abdomen is rarely tender. Urine analysis gives a typical picture with protein and white cells and often some blood. One important pitfall is that other causes of pelvic inflammation can also cause frequency and dysuria. For example, a pelvic appendicitis will cause abdominal pain, dysuria, frequency and even protein, blood and white cells on urine analysis.

Pitfall

Any cause of pelvic inflammation may cause dysuria and frequency

Most women with cystitis will be systemically well and will have no major abdominal signs. Cystitis is diagnosed by sending a midstream specimen of urine for culture and sensitivity and is treated with oral fluids and antibiotics. Alkylating agents may give symptomatic relief.

Pyelonephritis is associated with urinary symptoms but the patient is unwell, has loin pain, is pyrexial, and often has nausea or vomiting. If the systemic symptoms are mild then outpatient treatment is possible. If the patient cannot tolerate oral antibiotics nor has significant systemic symptoms and signs, then they will need referral to hospital.

Dysmenorrhoea

Pain at the time of the period is an extremely common symptom. If the period is late or the amount of bleeding is abnormal then ectopic pregnancy or miscarriage should be considered. There are no major abdominal signs. A pregnancy test should be done. A non-steroidal anti-inflammatory such as mefenamic acid is the best symptomatic treatment for this problem.

Early pregnancy vaginal bleeding/miscarriage

A miscarriage is the loss of a pregnancy before 20 weeks gestation. The usual symptom is vaginal bleeding. There is

often some abdominal pain but this is not usually severe. If the bleeding is not severe (for example, less than in normal period), the pregnancy is less than 12 weeks and the patient is well and stable contact the gynaecology unit to arrange review at an early pregnancy assessment unit. If the bleeding is heavy, there is tachycardia or bradycardia and hypotension, products of conception have been passed, or if the abdominal pain is severe, refer for immediate gynaecological assessment.

Pelvic inflammatory disease

Infections of the fallopian tubes and surrounding tissues are common in sexually active women. Typically there may be a history of vaginal discharge and lower abdominal pain. The differential diagnosis includes urinary tract infection, appendicitis, and ectopic pregnancy. Patients with mild symptoms should be advised to consult their primary care doctor or go to a genitourinary medicine clinic as soon as possible. Patients who have missed a period, have a positive pregnancy test, or have significant systemic upset should be referred to hospital for further investigations.

Ovarian cysts, mid-cycle ovulation pain

Ovarian cysts may rupture or undergo torsion. The cyst may not be large enough to feel abdominally but there will be rebound tenderness and signs of peritonism. There may be a mild fever. If the right ovary is involved the presentation is similar to appendicitis. Refer to the gynaecology team.

Mid-cycle ovulation pain occurs at ovulation. As the follicle ruptures there may be mild irritation of the peritoneum. The patient is well, she is at the midpoint of a normal menstrual cycle, the symptoms are short lived, vital signs are normal, there are no systemic symptoms. Check a pregnancy test. Advise simple analgesia but emphasise the need to seek further advice if the pain does not settle, gets worse, or other symptoms develop.

Ovarian hyperstimulation syndrome—this is a gynaecological emergency, which may be life threatening. It generally occurs in women who are having ovulation induced under the care of an assisted conception unit. Large cysts appear in the ovaries and fluid shifts from the circulation to produce ascites and a shock-like clinical syndrome. These patients will have abdominal pain and significant systemic upset. If a woman undergoing IVF or other methods of assisted conception develops abdominal pain, refer urgently to the appropriate gynaecological team.

PLAN FOR PATIENTS WITH ABDOMINAL PAIN

A risk stratification approach will give a good guide as to the appropriate management plan. This involves using your analysis to put patients in one of five groups.

Group 1—features suggesting hospital referral

There are very clear signs of definite surgical pathology with a large number of typical features of disease, for example classic appendicitis. In these patients the management plan is straightforward and little further investigation is needed in the emergency department. These patients should, therefore, be referred to the appropriate inpatient team (for example, surgical admissions unit).

Group 2—patients who need a disease “rule out”

There are borderline cases with some features of a diagnosis but the clinical picture is not sufficiently clear to make a definite decision on management. They need further

investigation and possibly further observation. This group will include the very young, the older patient, and cases where there are communication difficulties. These may need to be referred to A&E or to the appropriate inpatient team.

Group 3—common features permitting diagnosis of a problem that may be treated at home

For example the young woman with definite signs of urinary tract infection and no signs of other pathology, or a clear history of a likely self limiting gastroenteritis in an otherwise fit and healthy person.

Group 4—type of patient who may be treated by a wait and see approach

This group has no specific symptoms or signs that indicate serious pathology at the time of assessment. Do not give a “diagnosis” such as “constipation” or “UTI” when there are no specific symptoms or signs or confirmatory test results.

These patients may be managed at home with advice that the diagnosis is not clear but *at present* there are no signs of serious pathology. The patient should be advised to seek further advice if symptoms fail to settle or get worse.

Group 5—social implications

Some patients may need referral, such as the very elderly or very young, because of difficulty coping at home as well as the tendency for more rapid deterioration in condition.

Key point

- ▶ As a general principle, if a patient consults for a third time in a few days with the same problem then they should be referred for a specialist opinion

COMMUNICATION

Communication in abdominal pain is both with the patient and with other agencies.

The patient

If they are to be managed at home then they should have a full explanation of your findings and, if possible, probable diagnosis and its usual progression/resolution. If the diagnosis remains unclear reassure the patient that there are no signs of serious illness that require admission at present but they should seek further consultation if things worsen.

If they require admission explain why as clearly and concisely as possible in straightforward language.

Other agencies

If the patient requires admission then a clear, concise, and legible letter to the admitting team is appropriate in all but the imminently life threatening case (for example, AAA). This should include the important details from the history and examination as well as details of any previous consultations if known.

If the patient is managed at home ensure details are entered in the GP notes or details sent to the patients GP as appropriate.

Normal labour

If delivery is not imminent transfer to labour ward or contact community midwife. However, the emergency practitioner

may be faced with a woman in preterm labour, or with a concealed or unsuspected pregnancy who is about to deliver. The local obstetric unit should be contacted to request an on call community midwife to ask them to attend. A detailed description is found in many texts (JRCALC, Ambulance service manual, WHO web site.^{8,9} Box 10 summarises management).

The key action is to provide gentle support.

Box 10 Summary of the management of normal labour

- ▶ If the membranes have broken straw coloured fluid will be seen, if the fluid is green this may be indicative of fetal compromise, although a small number of green streaks is common
- ▶ As the head is delivering ask the woman to pant and only give small pushes
- ▶ Put the fingers of one hand against the head to keep it flexed. Support the perineum with the other hand
- ▶ The head will usually deliver with face looking down towards the mothers buttocks
- ▶ Once the head is delivered ask the woman not to push
- ▶ Allow the head to turn spontaneously
- ▶ Place the hands on either side of the head
- ▶ At the next contraction ask the woman to push
- ▶ Gently move the head posteriorly to deliver the anterior shoulder
- ▶ Once the anterior shoulder is delivered, lift the head anteriorly to deliver the posterior shoulder
- ▶ Support the body as it is delivered
- ▶ Place the baby on the mother's abdomen
- ▶ Dry the baby, discard wet towels, and cover with dry towel
- ▶ Assess breathing and heart rate, most babies will cry or breath within 30 seconds and have a rate over 100
- ▶ There is no rush to cut the umbilical cord, if all is well then place the cord clamps and cut the cord after it has stopped pulsating
- ▶ Palpate the abdomen to ensure that there is only one baby

Syntometrine should be given soon after delivery if it is available as it reduces bleeding and aids separation of the placenta. This should only be given when it is quite certain that this is not a multiple pregnancy.

Pitfall

Syntometrine or ergometrine will exacerbate hypertension—use syntocinon instead. None of these drugs should be given if there is a possibility of multiple pregnancy until all babies are delivered

Multiple births

There is usually a reasonable time delay between delivery of the first baby and the second. The placenta should be left in situ and arrangements made to transfer the mother into an obstetric unit. If the urge to push occurs again delivery should be as detailed elsewhere.

Breech

This is when the feet or bottom are delivered first. You should avoid handling the baby. If necessary any pressure should be

placed around the baby's pelvic girdle to ensure that the baby remains with its back uppermost. Ideally the mother should give birth at the edge of the bed so the baby can hang freely to allow gravity to aid delivery. Once the nape of the neck is visible hold the baby's feet and gently sweep them in upwards arc to a vertical position to aid delivery of the head.

Management of problems

Cord prolapse

If the cord (a rope like structure) is seen protruding through the vagina the woman should be transported urgently to hospital. If possible she should be placed in an all fours position with the head down and buttocks up in the air to reduce pressure on the cord and allow oxygen to reach the baby. Put warm saline swabs on the cord (if readily available, do not delay transport). Warn the receiving unit to prepare for emergency caesarean section.

Shoulder dystocia

After the head delivers the shoulders should follow within the next two contractions. If they do not deliver do NOT pull on the baby's head, but encourage the mother to push with her hips and knees sharply flexed up towards her shoulders, or alternatively encourage her to turn onto all fours on her hands and knees. Pressure can be put on the anterior shoulder to promote adduction of the shoulders. Stand behind the baby's back and press obliquely downwards above the symphysis pubis.

Postpartum haemorrhage

If heavy bleeding occurs intramuscular syntometrine should be given, intravenous access obtained. If the placenta has delivered the uterus may be aided in its contraction by rubbing the lower abdomen. Make urgent arrangements to transfer into hospital.

SUMMARY

Abdominal pain is a common presentation to the community practitioner. Most presentations can be managed at home

with simple advice and support, however some require admission for further assessment.

A structured approach to management will avoid missing the serious signs and symptoms of potentially life threatening illness. Particular care is required in the very elderly or very young because history taking and examination can be difficult.

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REFERENCES

- 1 **Dang C**, Aguilera P, Dang A, *et al.* Acute abdominal pain: four classifications can guide assessment and management. *Geriatrics* 2002;**57**:30–2.
- 2 **Simon S**, Everitt H, Birtwhistle J, *et al.* *Oxford handbook of general practice*. Oxford: Oxford University Press, 2002.
- 3 **Greaves I**, Dyer P, Porter K. *Handbook of immediate care*. London: WB Saunders, 1995.
- 4 **Department of Health**. *Why mothers die 1997–1999. The fifth report of the UK confidential enquiries into maternal deaths*. London: HMSO, 2001 (<http://www.cemach.org.uk>).
- 5 **Smal N**, Wang P, Cioffi WG, *et al.* Resuscitation after uncontrolled venous hemorrhage: Does increased resuscitation volume improve regional perfusion? *J Trauma* 1998;**44**:701–8.
- 6 **American College of Emergency Physicians**. Clinical policy: critical issues for the initial evaluation and management of patients presenting with a chief complaint of nontraumatic acute abdominal pain. *Ann Emerg Med* 2000;**36**:406–15.
- 7 **Martina B**, Bucheli B, Stolz M, *et al.* First clinical judgement by primary care physicians distinguishes well between nonorganic and organic causes of abdominal or chest pain. *J Gen Intern Med* 1997;**12**:459–65.
- 8 **JRCALC**. Clinical practice guidelines 2004. (<http://www.nelh.nhs.uk/emergency>).
- 9 **World Health Organisation**. Managing complications in pregnancy and childbirth, 2000. (<http://www.who.int/reproductive-health/impac/>).