Complications of peptic ulceration

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The common complications of peptic ulcer are perforation, bleeding and stenosis. Bleeding and stenosis are considered below in the relevant sections. y Perforated peptic ulcer Epidemiology Despite the widespread use of gastric antisecretory agents and eradication therapy , the incidence of perforated peptic ulcer has changed little. However, there has been a steady increase in the age of the patients with this complication and an increase in the numbers of females, such that perforations now occur most commonly in elderly female patients. NSAIDs appear to be responsible for most of these perforations. Clinical features The classical presentation of perforated duodenal ulcer is instantly recognisable (Figure 67.21). The patient, who may have a history of peptic ulceration, develops sudden-onset severe generalised abdominal pain due to the irritant e ff ect of gastric acid on the peritoneum. Although the contents of an acid-producing stomach are relatively low in bacterial load, bacterial peritonitis supervenes over a few hours, usually accompanied by a deterioration in the patient’s condition. Initially , the patient may be shocked with a tachycardia, but a pyrexia is not usually observed until some hours after the event. The abdomen exhibits a board-like rigidity , and the patient is disinclined to move because of the pain. The abdomen does not move with respiration. Patients with this form of presentation need an operation, without which the patient will deteriorate with a septic peritonitis.

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is observed less commonly than in the past. V ery frequently the elderly patient will have a less dramatic presentation, per haps because of the use of potent anti-inflammatory drugs (steroids). The board-like rigidity seen in the abdomen of younger patients may also not be observed and a higher index of suspicion is necessary to make the correct diagnosis. In other patients, the leak from the ulcer may be contained such that they present with pain in the epigastrium and right iliac fossa as the fluid may track down the right paracolic gutter. Sometimes perforations will seal owing to the inflammatory response and adhesion within the abdominal cavity , and so the perforation may be self-limiting. All of these factors may combine to make the diagnosis of perforated peptic ulcer di ffi cult. Investigations An erect chest radiograph will reveal free gas under the diaphragm in more than 50% of cases with perforated peptic ulcer (Figure 67.22), but CT imaging is now most commonly used and is more accurate. All patients should have serum amylase performed, as distinguishing between peptic ulcer, perforation and pancreatitis can be di ffi cult. Measuring the serum amylase, however, may not remove the diagnostic di ffi culty . It can be elevated following perforation of a peptic ulcer, although, fortunately , the levels are not usually as high as the levels commonly seen in acute pancreatitis. A CT scan will normally be diagnostic in both conditions. Treatment The initial priorities are resuscitation and analgesia. Analgesia should not be withheld for fear of removing the signs of an intra-abdominal catastrophe. In fact, adequate analgesia

makes the clinical signs more obvious. It is important, however, to titrate the analgesic dose. Following resuscitation, the treatment is principally surgical. Laparotomy is performed, usually through an upper midline incision if the diagnosis George Kenneth Mallory , 1900–1986, Professor of Pathology , Boston, MA, USA. Soma Weiss , 1899–1942, Professor of Medicine, Boston, MA, USA. Alternatively , laparoscopy may be used. The most important component of the operation is a thorough peritoneal toilet to - remove all of the fluid and food debris. If the perforation is in the duodenum, it can usually be closed by several well-placed sutures, closing the ulcer in a transverse direction as with a pyloroplasty . It is important that su ffi cient tissue is taken in the suture to allow the edges to be approximated, and the sutures should not be tied so tight that they tear out. It is common to place an omental patch over the perforation in the hope of enhancing the chances of the leak sealing. If the perforation is di ffi cult to close primarily it is frequently possible to seal the leak with an omental patch alone, and many surgeons now employ this strategy for all perforations. When securing the omental patch, it is important not to tie the sutures too tight so as to obliterate the omental blood supply . Gastric ulcers should, if possible, be excised and closed, so that malignancy can be excluded. Occasionally a patient is astric perforation such seen who has a massive duodenal or g that simple closure is impossible; in these patients a distal gas - trectomy with Roux-en-Y reconstruction is the procedure of choice (Figure 67.20). Perforated peptic ulcers can often be managed by mini - if the expertise is available. The prin - mally invasive techniques ciples of operation are the same: thorough peritoneal toilet and closure of the perforation by intracorporeal suturing. Following operation, it is important that the stomach is kept astric suction, and that gastric empty postoperatively by nasog antisecretory agents are commenced to promote healing in the H. pylori eradication is mandatory . residual ulcer. A minority of patients who have small leaks from a perfo - rated peptic ulcer and relatively mild peritoneal contamination may be managed with intravenous fluids, nasogastric suction and antibiotics. Any deterioration should prompt immediate surgical interv ention. Patients who have had one perforation may have another. Therefore, they should be managed aggressively to ensure that this does not happen. Lifelong treatment with PPIs is a rea - sonable option, especially in those w ho have to continue with NSAID treatment.

Figure 67.22 Erect chest radiograph showing air under the right diaphragm in a patient with a perforated duodenal ulcer.

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