CONNECTIVE TISSUE DISORDERS Intestinal diverticula

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Diverticula (hollow outpouchings) are a common structural abnormality that can occur from the oesophagus to the recto sigmoid junction. Small bowel diverticula may be congenital or acquired. In congenital diverticula all three coats of the bowel are present in the wall of the diverticulum (e.g. Meckel’s diverticulum). Acquired diverticula These often develop in the jejunum and arise from the mesen teric side of the bowel as a result of mucosal herniation at the point of entry of the blood vessels, where there is a potential defect in the muscularis layer. Jejunal diverticula can vary in siz and are frequently multiple. They are commonly asymptomatic and present as an incidental finding at surgery or on radio logical imaging. However, they can result in malabsorption, due to bacterial overgrowth, or present as an acute abdominal emergency if they become inflamed or perforate. Bleeding from a jejunal diverticulum is a rare complication (compar with sigmoid diverticular disease). Elective resection of an a ff ected small bowel segment causing malabsorption can be e ff ective, provided there is only a limited amount of jejunum involved. If perforated jejunal diverticulitis is found at emer gency laparotomy , a small bowel resection should be performed and a decision made between primary anastomosis and stoma formation. This will depend on the degree of contamination, physiological stability and local resources for managing a patient with a high-output jejunostomy . Complications resulting from extensive jejunal diverticulo sis can be extremely di ffi cult to treat. In severe cases, much of the proximal small intestine may be involved, e ff ectively pre cluding resection. Prolonged antibiotic therapy for bacterial overgr owth may be preferable, and antibiotics (metronidazole, Johann Friedrich Meckel (the younger), 1781–1833, Professor of Anatomy and Surgery , Halle, Germany , described the diverticulum in 1809. -). ciprofloxacin, rifaximin) may be rotated in an attempt to avoid antibiotic resistance. Limited resection, leaving remaining seg - ments of a ff ected jejunum, may be feasible, but may also fail - to deal adequately with bacterial overgrowth, recurrent attacks of inflammation or bleeding. Meckel’s diverticulum A Meckel’s diverticulum is a persistent remnant of the vitello - intestinal duct and is present in about 2% of the population. It is found on the antimesenteric side of the ileum approximately - 60 /uni00A0 cm from the ileocaecal valve and is classically 5 /uni00A0 cm long (2% prevalence; 2 feet [60 /uni00A0 cm] from ileocaecal valve; 2 inches [5 /uni00A0 cm] long). A Meckel’s diverticulum is a congenital diverticulum e (Figure 74.5). It contains all three coats of the bowel wall and has its own blood supply . It may be vulnerable to obstruction - and inflammation in the same way as the appendix; indeed, when a normal appendix is found at surgery for suspected appendicitis, a Meckel’s diverticulum should be looked for by examining the small bowel,

particularly if free fluid or pus ed is found (see Chapter 76). In approximately 20% of cases, the mucosa of a Meckel’s diverticulum contains heterotopic epithelium of gastric, colonic or pancreatic type. The presence of heterotopic mucosa may predispose to the development of - complications (Summary box 74.4). The vast majority of Meckel’s diverticula are asymptomatic and a Meckel’s diverticulum is notoriously di ffi cult to visualise erticulum may however with contrast radiology . Meckel’s div present clinically in the following ways. - Haemorrhage . If gastric mucosa is present, peptic ulcer - ation can occur and present as painless dark rectal bleeding or - melaena. If the stomach, duodenum and colon are excluded as a source of bleeding by endoscopy , radioisotope scanning with te a Meckel’s diverticulum. technetium-99m may demonstra

Figure 74.5 Meckel’s diverticulum.

appendicitis, although if perforation occurs the presentation may resemble a perforated duodenal ulcer. Intussusception . A Meckel’s diverticulum can be the lead point for ileoileal or ileocolic intussusception. Chronic ulceration . Pain is felt around the umbilicus, as the site of the diverticulum is midgut in origin. Intestinal obstruction . A band between the apex of the diverticulum and the umbilicus (also part of the vitello intestinal duct) may cause obstruction directly , or by predis posing to the development of a volvulus around it. Perforation . (Figure 74.6). When found in the course of abdominal surgery , a Meckel’s diverticulum can safely be left alone, provided it has a wide mouth and is not thickened. When there is doubt, it can be resected. The finding of a Meckel’s diverticulum in an inguinal or femoral hernia has been described as ‘Littre’s hernia’. Summary box 74.4 Features of Meckel’s diverticulum /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF Meckel’s diverticulectomy A broad-based Meckel’s diverticulum should not be amputated at its base and invaginated (as for an appendix), as there is the risk of stricture and of leaving heterotopic epithelium behind. It is safer simply to excise the diverticulum, either by resecting the diverticulum and suturing the defect at its base or by performing a limited small bowel resection with anastomosis. This can also be achieved with a linear stapler–cutter. If the base of the diverticulum is indurated, it is on balance safer to perform a limited small bowel resection of the entire involved segment, followed by an anastomosis.

Remnant of vitellointestinal duct Occurs in 2% of patients, 5 /uni00A0 cm (2 inches) long, 60 /uni00A0 cm (2 feet) from the ileocaecal valve, 20% heterotopic epithelium Should be looked for when a normal appendix is found at surgery for suspected appendicitis If a Meckel’s diverticulum is found incidentally at surgery, it can be left provided it has a wide mouth and is not thickened Can be a source of gastrointestinal bleeding if it contains ectopic gastric mucosa

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