Supportive management

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Nasogastric decompression is achieved by the passage of a non-vented (Ryle) or vented (Salem) tube. The tubes are normally placed on free drainage with 4-hourly aspiration but may be placed on continuous or intermittent suction. As well as facilitating decompression proximal to the obstruction, they are essential to reducing the risk of subsequent aspiration during induction of anaesthesia and after extubation. The basic biochemical abnormality in intestinal obstruc - tion is sodium and water loss, and therefore the appropriate replacement is Hartmann’s solution or normal saline. The volume requir ed varies and should be determined by clinical haematological and biochemical criteria. The timing of surgical intervention is dependent on the clinical picture. There are several indications for early surgical inter vention. Summary box 78.13 Indications for early surgical intervention /uni25CF /uni25CF /uni25CF The classic clinical advice that ‘the Sun should not both rise and set’ on a case of unrelieved acute intestinal obstruction was based on the concern that intestinal ischaemia would develop while the patient was waiting for surgery . If there is complete obstruction, but no evidence of intestinal ischaemia, it is rea sonable to defer surgery until the patient has been adequately resuscitated. Where obstruction is likely to be secondary to adhesions, conservative management may be continued for up to 72 hours in the hope of spontaneous resolution. If the site of obstruction is unknown, adequa te exposure is best achieved by a midline laparotomy incision. Assessment is directed to: /uni25CF the site of the obstruction; /uni25CF the nature of the obstruction; /uni25CF the viability of the gut. In cases of small bowel obstruction, the first manoeuvre is to deliver the distended small bowel into the wound. This per mits access to the site of obstruction. The small bowel should be covered with moist swabs and the weight of the fluid-filled bowel supported such tha t the blood supply to the mesentery is not impaired. Operative decompression should be performed whenever possible. The simplest and safest method is to insert a large-bore orogastric tube and to milk the small bowel con tents in a retrograde manner to the stomach for aspiration. Great care must be taken not to tear the mesentery or injure the small bowel, which will be distended and oedematous. It is important to ensure that the stomach is empty at the end of the procedure to reduce the incidence of postoperative aspi ration. Decompression using Savage’s decompressor within a seromuscular purse-string suture may be required. Its benefits should be balanced against the potential risk of septic compli cations from spillage and the risk of leakage from the suture line postoperativ ely . The type of surgical procedure required will depend upon the cause of obstruction: division of adhesions (enterolysis), excision, bypass or pr oximal decompr ession. If resection is performed, Savage’s decompressor can be inserted into this segment to obviate the risk of a suture line. Following relief of obstruction, the viability of the involved bowel should be carefully assessed (Table 78.3). Although Paul Thwaites Savage , 1916–2013, surgeon, Whittington Hospital, London, UK. may be di ffi cult to discern. If in doubt, the bowel should be wrapped in hot packs f or 10 minutes and then reassessed. - T he state of the mesenteric vessels and pulsation in adjacent arcades should be sought. Viability is also confirmed by colour, sheen and peristalsis. If, at the end of this period, there is still uncertainty about bowel viability , it should be resected unless there is

concern that the extent of resection may lead to short bowel syndrome (see Chapter 74). In which case, or in the case of a critically unwell patient, consideration should be given to resecting necrotic bowel and raising both residual ends as sto - mas. This avoids anastomosis in unfavourable circumstances. When no resection has been undertaken or there are multiple ischaemic areas (mesenteric vascular occlusion), a second-look laparotomy at 24–48 hour s may be required. Intestinal ischaemia/reperfusion injury has been described following reperfusion of ischaemic bowel with remote lung injury resulting from the release of inflammatory mediator s. This should be borne in mind when dealing with ischaemic - bowel. For example, if there is a volvulus with established infarc - tion, detorsion should be avoided until the a ff ected mesentery has been clamped and thus reperfusion injury prevented. - Special attention should always be paid to the sites of con - - striction at each end of an obstructed segment. If of doubtful viability , they should be infolded using a seromuscular suture (Figure 78.15). The surgical management of massive infar ction is depen - dent on the patient’s overall prognostic criteria. In the elderly , - infarction of the small bowel from the duodenojejunal flexure to the right colon may be considered incurable , whereas in the young, with the potential for long-term intravenous alimenta - - tion and small bowel transplantation, a policy of excision may be justified. Whenever the small bowel is resected, the exact site of resection, the length of the resected segment and that of the residual bowel should be recorded. As laparoscopic surgery is now so common, it is import - ant to note that small bow el obstruction and strangulation occur in relation to port-site hernias. The risk of port-site herniation is related to older age, higher body mass, trocar diameter and extension of the port site for tissue e xtraction.

Obstructed external hernia Clinical features of intestinal strangulation Obstruction in a previously unoperated abdomen TABLE 78.3 Differentiation between viable and non-viable intestine. Viable Non-viable Dark colour remains Circulation Dark colour No detectable becomes lighter pulsation Visible pulsation in mesenteric arteries General appearance Shiny Dull and lustreless Intestinal Firm Flabby, thin and musculature friable Peristalsis may be No peristalsis observed

to be around 2%. Obstruction and strangulation have even been reported through 5-mm port sites. Complications from these hernias may present in the early postoperative period and as a Richter’s hernia. They can be easily overlooked and careful examination of port sites in patients with small bowel obstruction is essential.

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