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SURGICAL TECHNIQUE

Management of traumatic small bowel injury by mechanical anastomosis ''without resection'' during damage control laparotomy

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Introduction

Penetrating or blunt abdominal injury can produce small bowel injuries that are sometimes complex and difficult to repair. Management of these injuries requires a safe, quick and reproducible technique.

Surgery should take into consideration not only the injury itself, but also patient status, the eventual presence of associated injuries, shock, hypothermia or metabolic acidosis [1].

For a stable, non-shocked patient, presenting with a simple small linear intestinal wound with clear and well-vascularized edges, simple suture closure, with either a continuous or interrupted sutures using slowly absorbable or non-absorbable material can be performed.

Conversely for high-risk patients with complex gastro-intestinal wounds, or when the wound edges are torn, and damaged, we propose performance of a side-to-side stapled anastomosis ''without mesenteric resection or ligation''. This procedure is simple to perform, simple to learn and is easily reproducible. Morbidity is similar to that of manual repair and allows performance of the anastomosis on healthy tissues [2,3].

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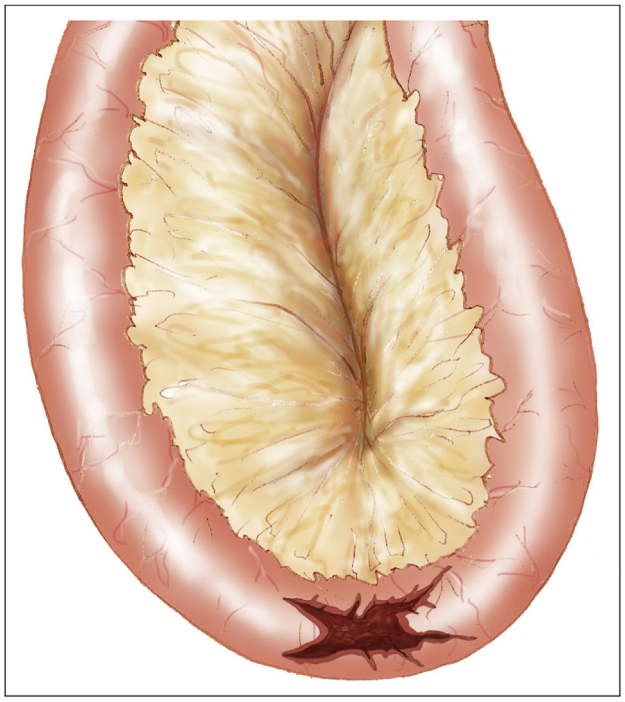
1 Small bowel wound

Complex small bowel wounds can be due to blunt or penetrating (stab or firearm) abdominal trauma. The edges of transfixing wounds can be ragged, sometimes necrotic, or with crushed edges that are difficult to appose. Simple manual sutures in these settings can be risky.

Emergency surgery is usually performed via a midline laparotomy, which allows exploration of the entire abdomen with repair of all other injuries as necessary.



2 Apposition of the two intestinal segments - preparation of the anastomosis

The small intestinal loop is folded over itself such that the wound lies at the apex of the loop. The linear stapler is introduced through the wound. The two, afferent and efferent, bowel segments are apposed along their antimesenteric borders such that a side-to-side anastomosis can be performed. The two jaws of the stapler are separated, thus facilitating their introduction, and then they are inserted through the wound as far as possible. Babcock graspers can be placed on the bowel to help this maneuver.