Adhesions and Small Bowel Obstructions – Update 2006

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Introduction

Acute small bowel obstruction (ASBO) remains a significant surgical problem and is commonly caused by postoperative adhesions.

Definition

Adhesions consist of obstructive bands and/or matted adhesions. The mechanism of ASBO can be either strangulation or volvulus of one or several bowel loops.

Epidemiology and Clinical Course

Colorectal surgery (odds 2.7) and vertical incisions (odds 2.5) more frequently produce intestinal obstruction (reported rate of ASBO of 3.6% at 3 years' time interval) and predispose to multiple matted adhesions than an obstructive band [6, 8].

In a retrospective study, it seems that ASBO requiring hospitalization with conservative management occurs less frequently after laparoscopic bowel resection than after open surgery; however, the need for surgical release of ASBO is similar [2].

The risk of ASBO recurrence increases with the number of ASBO episodes. Surgical treatment decreases the risk of future admissions for ASBO but not the risk of new surgically treated ASBO [4].

Diagnostics

Computed tomography (CT) has proven useful in the diagnosis of mechanical ASBO. Its specificity is superior to that of plain abdominal film. Although CT can seldom identify the obstructive adhesion, it has the advantage of eliminating another cause of obstruction (e.g. tumour) [3]. The highly specific CT criteria used for differentiating simple from strangulated ASBO

include the poor or no enhancement of the bowel wall, a serrated beak, a large amount of ascites, diffuse mesenteric changes and an abnormal mesenteric vascular course. However, to improve the diagnostic accuracy of CT and to avoid unnecessary surgical exploration, CT findings must be correlated with clinical and biochemical criteria [5].

Operative Versus Conserative Treatment

Use of an oral water-soluble contrast medium is a useful predictive test for non-operative resolution of adhesive ASBO. The appearance of contrast medium in the caecum on an abdominal radiograph within 24 h of its administration predicts the resolution of an obstruction with a sensitivity and specificity of 96%. However Gastrografin is only a predictive test and does not cause resolution of ASBO [1]. In the absence of clinical and CT signs of acute intestinal ischemia requiring an urgent operation, it seems to be safe to attempt a non-operative management of ASBO. The use of a short versus a long tube for gastrointestinal decompression remains under debate as well as the duration of conservative treatment (from 1 day to several days). When non-operative treatment is unsuccessful, emergency surgery is required.

Choice of Surgical Approach and Procedure

There are no prospective randomized trials comparing open and laparoscopic adhesiolysis for ASBO. The benefits of laparoscopic approach in ASBO that have been reported in case series and in one retrospective matched-pair analysis are the same as in laparoscopy for other conditions: quicker return of intestinal function, lower morbidity, shorter hospital stay [9]. However, laparoscopic adhesiolysis in an emergency has not gained wide acceptance because of the limited visualization of the abdominal cavity secondary to the distended bowel and because of the risk of iatrogenic intestinal injury. The high conversion rate is also an issue, ranging from 15 to 43%. The best cases for laparoscopic approach are patients with moderate abdominal distension (proximal obstruction), a bowel diameter not exceeding 4 cm, a few adhesions and a limited number of previous scars [7].

Technical Aspects of Surgery

In order to limit the risk of injury to the underlying adherent bowel, open Hasson technique is required to enter the abdominal cavity. Instrumental manipulation of fragile dilated bowel loops should be avoided. It is recommended to run the flat small bowel with atraumatic graspers from the ileo-

caecal valve until the site of obstruction is found. Only pathologic adhesions should be cut. In case of any doubt about the viability of the bowel, a minilaparotomy can be performed to check the intestinal blood supply and if necessary bowel resection [7].

Peri- and Postoperative Care

No new data are available.

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