

## Fibrous adhesive band causing subacute small bowel obstruction

Fariha M Khalid, Syed Mukarram Hussain

### Abstract

In today's world where abdominal operations are common, adhesions and bands are the most common cause of intestinal obstruction.

The risk of adhesive small bowel obstruction, after abdominal surgery is around 4% and the risk of acquiring subsequent laparotomy is around 2%.

A case was reported of a male patient complaining of severe abdominal pain, feeling of fullness and vomiting. Upon investigation and conservative management leading to surgery small bowel obstruction by adhesive band was discovered. Small bowel was mobilized after performing resection of the adhesive band. Recovery was uneventful.

**Conclusion:** Adhesions start to form within hours of surgery. Common causes for intra-abdominal adhesions include acute inflammation, foreign bodies, infections and chronic inflammatory conditions. Adhesions can be classified into two types; early fibrinous, which can disappear when their cause is removed, or they can become vascularized and are replaced by mature fibrous tissue

**Keywords:** adhesions, small bowel obstruction

### Introduction:

Bowel obstruction by adhesions and bands is a common post-operative complication. It is reported more frequently in the western world. Adhesions start to form within hours of surgery. Common causes for intra-abdominal adhesions include acute inflammation, foreign bodies, infections and chronic inflammatory conditions. Adhesions can be classified into two types; early fibrinous, which can disappear when their cause is removed, or they can become vascularized and are replaced by mature fibrous tissue. Certain factors can be adapted to limit formation of adhesions including good surgical techniques, washing of peritoneal cavity with saline, minimizing contact with gauze and covering anastomosis and raw peritoneal surfaces. Post-operative adhesions usually involve lower small

bowel and almost never involve the large bowel.

### Case Report:

We present a 38-year-old male patient who was referred from CMH Rawalakot with active complaints of abdominal pain and vomiting. Abdominal pain was chronic, colicky in nature, severe in intensity, increase from food intake and relieved by vomiting. The vomiting cycles were between 3-4/day leading to dehydration and generalized weakness. He also has history of chronic constipation from past 2-3 months. His general physical examination showed pulse 100/minute and mild dehydration while other parameters were normal. Abdominal examination showed mild tenderness, minimal distension and reduced bowel sounds.

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### The Indus Hospital,

#### Karachi

FM Khalid  
SM Hussain

### Correspondence:

Dr Fariha M Khalid  
Medical Officer,  
Emergency Department,  
The Indus Hospital,  
Karachi.  
Cell No: +92-323-2594244  
email: Dr\_farihamk@  
outlook.com



Figure 1: The Barium meal study showed Duodenal and Jejunal Diverticula along with Midgut Volvulus

Laboratory investigation showed the white cell count to be  $4.1 \times 10^9$  g/L with hemoglobin being 17.4 g/dl. Hepatitis serology indicated the patient to be Hepatitis-B positive with DNA PCR at 13,400 IU/ml. Serum electrolytes and clotting profile were reported at normal levels.

The patient's abdominal ultrasound highlighted Cholelithiasis. Abdomen CECT scan showed a prominent duodenal loop with Para duodenal Hernia and misty mesentery with associated anticlockwise mesenteric swirling. The Barium meal study showed Duodenal and Jejunal Diverticula along with Midgut Volvulus as shown in figure-1.

After conservative management the patient was electively underwent laparoscopic exploration and Cholecystectomy. Upon encountering a single soft tissue band adherent to the anterior abdominal wall from one end, swirling around the small gut and adherent to the Duodenum from the other end the patient was opened from the midline. The Adhesion band was dissected and was sent for histopathology. Post-operative



Figure 2: Fibrous band causing intestinal obstruction

course was uneventful, and the patient was discharged in a stable condition.

Histopathology confirmed fibro adipose tissue, exhibiting focal areas of fat necrosis, foreign body type giant cell reactions and congested blood vessels.

#### Discussion:

Adhesive small bowel obstructions are major and common complications in abdominal surgeries. In the early post-operative period the onset of such mechanical obstruction was difficult to differentiate from paralytic ileus.<sup>1</sup> The incidence and risk factors associated with early post-operative small bowel obstruction include long hospital stays, male gender and the use of intraoperative crystalloids.<sup>2</sup> Any source of peritoneal irritation results in local fibrin production leading to adhesions between apposed surfaces. Adhesions are much more common in females due to gynecological surgeries, sexually transmitted infections, and Salpingoophritis.<sup>3</sup> Adhesions have been reported in 62.5% patients with laparotomy. However, patients with lapa-

roscopy were reported at a much lower (33.3%) having adhesions.<sup>3,4</sup> Numerous substances have been instilled in the peritoneal cavity to prevent adhesion formation, including hyaluronidase, hydrocortisone, silicone, dextran and polyvinyl propylene (PVP).<sup>5</sup> Non-operative management of adhesive small bowel obstruction is possible, but the suspicion of strangulation is a major confounding interventional factor for Surgery.<sup>6</sup> Re-occurrence of adhesive small bowel obstruction has been reported at 53% in patients who are either female or have multiple matted adhesions, in addition to those with fascial dehiscence.<sup>7</sup>

### Conclusion:

We conclude adhesions start to form within hours of surgery. Common causes for intra-abdominal adhesions include acute inflammation, foreign bodies, infections and chronic inflammatory conditions. Adhesions can be divided into two types; early fibrinous, which can disappear when their cause is removed, or with passage of time adhesions become vascularized and are replaced by mature fibrous tissue.

This fibrous tissue usually results in intestinal obstruction.

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### Role and contribution of authors:

Dr Fariha M Khalid, collected the data, references and did the initial write up.

Dr Syed Mukarram Hussain, critically review the article and made the final changes.

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