

## Mechanical ileus due to a peritoneal band in a patient without a history of surgery

### Ameliyat öyküsü olmayan bir hastada peritoneal banda bağlı mekanik ileus

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#### ABSTRACT

This case report is aimed to present the diagnosis and treatment process of a patient who underwent laparotomy for ileus, and a peritoneal band was detected during laparotomy. A 65-year-old male patient was admitted to the emergency department with abdominal pain, nausea, and vomiting. He had no other disease or previous surgery. The patient had extensive tenderness and defence in the all-abdominal quadrants. Ampulla was empty on digital rectal examination. Multiple air-fluid levels were present on plain radiography. Computed tomography (CT) was planned for the patient for a detailed diagnosis. CT scan showed an approximately 40 mm diameter enlargement in the jejunal and ileal bowel loops. Despite the conservative treatment, the patient's abdominal physical examination worsened, so emergency surgery was planned for the patient. During laparotomy, enlargement was observed in all small bowel segments. It was observed that a single peritoneal band in the ileal intestinal part, approximately 100 mm proximal to the ileocecal valve, completely obstructed the small intestine lumen. Only bridectomy was performed, and the patient was discharged on the fifth postoperative day without complications.

**Anahtar Kelimeler:** Emergency, ileus, laparotomy

#### ÖZET

Bu olgu sunumunda ileus nedeniyle laparotomi yapılan ve laparotomi sırasında peritoneal bant saptanan bir hastanın tanısı ve tedavi sürecini sunmayı amaçladık. 65 yaşında erkek hasta karın ağrısı, bulantı ve kusma şikâyetleri ile acil servise başvurdu. Hastanın başka bir hastalığı veya geçirilmiş bir ameliyatı yoktu. Hastanın tüm karın kadrantlarında yaygın hassasiyet ve defans mevcuttu. Ampulla, parmakla rektal muayenede boştu. Düz radyografide çoklu hava-sıvı seviyeleri mevcuttu. Hastaya detaylı tanısı için bilgisayarlı tomografi (BT) planlandı. BT taraması jejunal ve ileal barsak anslarında yaklaşık 40 mm çapında bir genişleme gösterdi. Konservatif tedaviye rağmen hastanın batin fizik muayenesinin kötüleşmesi üzerine hastaya acil ameliyat planlandı. Laparotomi sırasında tüm ince barsak segmentlerinde genişleme gözlemlendi. İleal barsak kısmında ileoçekal valvin yaklaşık 100 mm proksimalinde tek bir peritoneal bandın ince barsak lümenini tamamen tıkadığı gözlemlendi. Hastaya sadece bridektomi yapıldı ve hasta postoperatif beşinci günde komplikasyonsuz olarak taburcu edildi.

**Keywords:** Acil, ileus, laparotomi

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## INTRODUCTION

Mechanical ileus (MI) is an emergency surgical problem commonly encountered in surgeons' daily practice. Approximately 70% of the cases with mechanical ileus have small bowel obstruction (1).

Mechanical small bowel obstruction occurs due to adhesions from previous surgery, gallstones (2), foreign bodies, gossypibomas (3), tumours, congenital abnormalities, and intussusception (4). On the other hand, mechanical large-bowel obstructions

occur due to colorectal cancers, hernias, adhesions and stenosis (5).

MI is common after surgery, especially in Western societies, and there is a lifetime risk of development. The risk of developing mortality in patients with MI is between 5-15% (6). While most patients who develop mechanical ileus improve with conservative treatment, surgical treatment is required in patients who do not improve despite conservative treatment. The treatment to be applied is decided based on the patient's laboratory values, findings in X-ray or other imaging methods, and abdominal examination findings.

This case report is aimed to present the diagnosis and treatment process of a patient who underwent laparotomy for MI, and a peritoneal band was detected during laparotomy.

## CASE REPORT

A 65-year-old male patient was admitted to the emergency department with abdominal pain, nausea, and vomiting that had been ongoing for two days. The last stool discharge occurred one day before hospital admission. He had no other disease, previous surgery, and no history of drug use. At the time of admission, the patient's vital signs were as follows: Arterial blood pressure was 128/72 mm Hg, pulse: 97 beats/min., respiratory rate: 16/min., oxygen saturation: 95% (in room air), body temperature: 37.1°C. The patient had extensive tenderness and defence in the all-abdominal quadrants on the physical examination. Ampulla was empty on digital rectal examination.

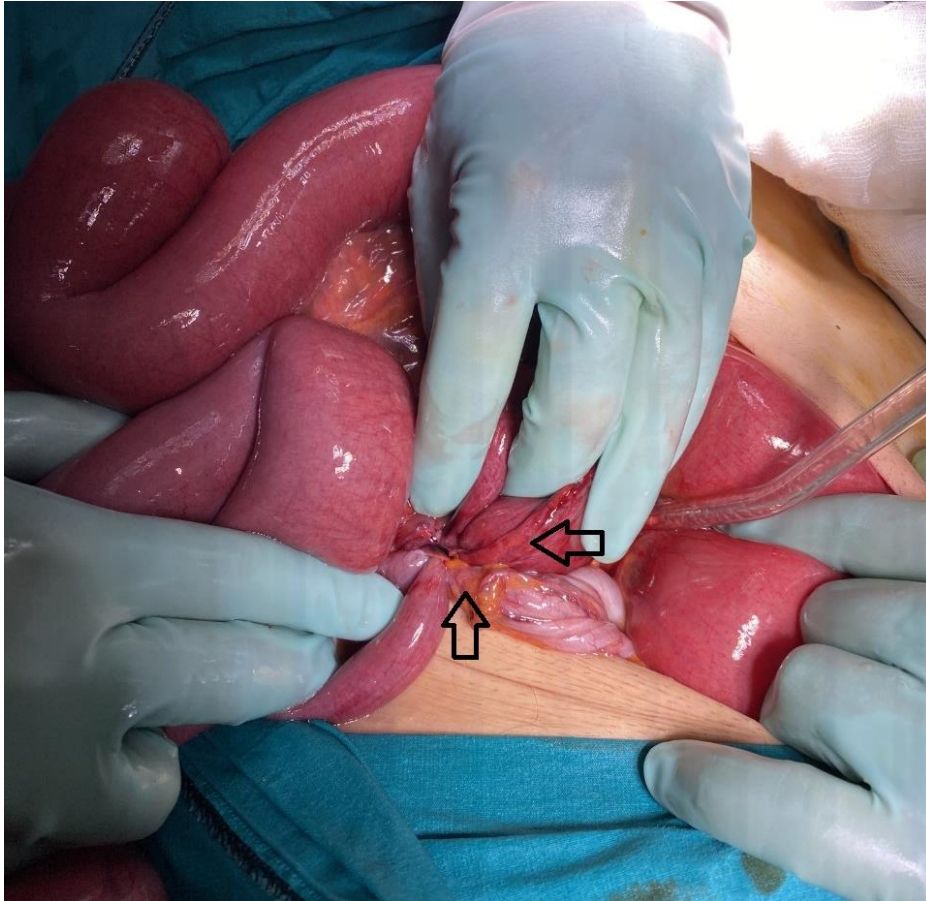
In the laboratory, only white blood cell count (15000/ $\mu$ L) and c-reactive protein level (seven mg/L) were higher. Other laboratory findings were unremarkable. Multiple air-fluid levels were present on plain radiography. Computed tomography (CT) was planned for the patient for a detailed diagnosis. CT scan showed an approximately 40 mm diameter enlargement in the jejunal and ileal bowel loops (Figure 1).

The patient was admitted to the service for follow-up. Oral intake was stopped, and a nasogastric tube was inserted for decompression. Enema treatment every 12 hours was added. Despite the conservative treatment, the patient's abdominal physical examination worsened, so emergency surgery was planned for the patient. During the first exploration with midline laparotomy, enlargement was observed in all small bowel segments. All bowel segments were examined from Treitz's ligament. It was observed that a single peritoneal band in the ileal intestinal part, approximately 100 mm proximal to the ileocecal valve, completely obstructed the small intestine lumen (Figure 2). There were no signs of ischemia, necrosis or intestinal blood supply problem. Therefore, intestinal resection was not considered. Only bridectomy was performed in the patient without additional perioperative pathology.

The patient was followed up in the service during the postoperative period, and his oral nutrition was opened on the first postoperative day. He had gas stool discharge on the 3<sup>rd</sup> postoperative day. He was discharged on the postoperative 5<sup>th</sup> day without complications. There was no problem in the first-month follow-up of the patient after the operation.



**Figure 1.** Dilatation of ileal and jejunal bowel segments on abdominal tomography (marked with an arrow)



**Figure 2.** Ileocecal valve 10 cm proximal peritoneal band in the small bowel segment (marked with an arrow)

## DISCUSSION

Mechanical ileus (MI) is a common emergency surgical pathology which is the partial or complete obstruction of the distal passage of intestinal contents. The small intestine is the most common localisation of MI, and postoperative adhesions are the most common etiological cause. In patients with MI, complaints such as nausea, vomiting, and abdominal pain may decrease the quality of life. MI also prolongs hospital stays and increases morbidity and mortality (7). Studies have shown that this group of patients imposes a severe economic burden on the health system (8).

Gallstones, foreign bodies, fecalomas, tumours, congenital abnormalities, intussusception, volvulus, hernias, and stenosis are the other causes of MI (2-4, 9). On the other hand, studies have reported that dysfunction in the intestinal wall and damage to the neuronal plexus may occur in patients with last intraabdominal infection, which may cause MI (10). In another research by Busquets, it has been reported that intraabdominal adhesions may develop due to bacterial translocation and bacteremia secondary to a previous intraabdominal infection. As a result of this bacterial translocation or bacteremia, MI may develop

(11). Contrary to the literature, the patient had no known history of intra-abdominal infection or previous surgery in the presented case.

Diagnosis of MI is approached by clinical findings, patient anamnesis, and standing direct abdominal X-ray findings. Computed tomography (CT) is very helpful in the differential diagnosis. Abdominal CT should be preferred to conventional barium radiographs because barium suspension can convert partial bowel obstruction to complete obstruction in retrograde passage radiographs (12). The sensitivity of standing direct abdominal X-ray findings in the diagnosis of MI varies between 48-80%. On the other hand, the sensitivity and specificity of CT were reported as 93% and 100%, respectively (13). In the present case, multiple air-fluid levels were present on plain radiography, and a CT scan showed an approximately 40 mm diameter enlargement in the jejunal and ileal bowel loops.

Treatment of MI is based on laboratory, imaging methods, and abdominal examination findings. While laboratory values and imaging methods contribute seriously to the clinician in many patients, it should be kept in mind that acting with only this data may sometimes be misleading. Frequent physical examinations of the patient are significant in cases where imaging methods are not diagnostic. Intestinal

necrosis and perforation may develop in the follow-up of medically treated patients. Bauer *et al.* found that in patients who were followed conservatively due to MI and did not improve in the follow-up, small bowel ischemia was observed in 16%, and perforation was observed in approximately 2% (14). In the present patient, no ischemia or perforation was observed during surgery. A peritoneal band, which caused almost complete obstruction in the small intestine lumen, was seen, and this band was excised.

## Conclusion

Mechanical ileus is a condition that may cause morbidity and mortality. Although it is generally encountered in patients with a history of previous surgery, it should be noted that it may also be encountered in patients who have not undergone an operation. If the intervention to the ileus occurs due to delayed peritoneal bands, it may cause strangulation and necrosis in the bowel. Therefore, early diagnosis and treatment are vital in these patients.

## Conflict of Interest

All contributing authors declare that they have no conflicts of interest.

## Financial Disclosure

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## Informed Consent

Written informed consent was obtained from the patient who participated in this case.

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