

Incidental Chylous Ascites Associated With Internal Hernial After Bariatric Surgery. Case Series

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Abstract

Bariatric surgery is of great importance due to the high incidence of morbid obesity. Techniques such as gastric bypass laparoscopic, tubular gastrectomy laparoscopic and other bariatric techniques with gastrointestinal anastomosis are used for its treatment. The incidence of internal hernias in the late postoperative period after bariatric surgery ranges from 0.4 to 8.8%. As a consequence, there may be obstruction of the lymphatic vessels. Although chylous ascites is a rare pathology in bariatric surgery, several cases have been reported in the literature. We present two cases of patients who presented as a late complication an internal hernia associated with chyloperitoneum.

Introduction

The increasing prevalence of morbid obesity in Western countries in recent decades has allowed the development of different laparoscopic bariatric surgery techniques.

Bypass gastric en Y de Roux laparoscopic (BPGL), Gastrectomy tubular laparoscopic (GTL) and other bariatric techniques with gastrointestinal anastomosis are the most widely bariatric surgery techniques used in the world. The laparoscopic approach decreases the morbimortality of this surgery and allows for a faster clinical recovery and incorporation into working life. Some complications may appear in the late postoperative period such as the appearance of internal hernias with an incidence between 0.4 and 8.8% [1,2]. As a consequence of these hernias, can be produced an intestinal or vascular obstruction. Although lymphatic obstruction is less frequent, it is also possible.

The appearance of chylose ascites in patients with a history of bariatric surgery is quite uncommon. However, the literature has reported up to seven cases of patients with a history of bariatric surgery who have presented as a late complication the appearance of chyloperitoneum associated with an internal hernia [3-8].

We present retrospectively two cases of patients with a history of bariatric surgery who presented as a late complication an internal hernia associated with chyloperitoneum.

Case Reports

Case 1:

We present a 31-year-old woman with a history of single-anastomosis Billroth 2 gastrointestinal bypass surgery, who underwent surgery at another hospital four years ago. After surgery there was a significant weight loss of 55 kg with a BMI of 30.4.

The patient went to the Emergency Department of our hospital for abdominal pain of 48 hours of evolution. The pain was located in the mesogastrium, right iliac fossa (RIF) and both lumbar fossa. She was afebrile, without nausea or vomiting and with intestinal transit present.

On examination the patient was in good general condition, afebrile, hemodynamically stable, conscious and oriented. The abdomen was soft and depressible, it was felt a mass of about 5 cm in mesogastric and in RIF, that was painful on palpation.

In the imaging tests, a suspicion of ileal invagination was identified by abdominal ultrasound (figure 1). It was appreciated a grouping of adenopathies that together amounted to 42 x 8 mm in mesogastric, which formed the head of the invagination. It was also presented a sheet of free liquid in proximity and it wasn't be signs of intestinal obstruction.

Due to the diagnostic suspicion of an ileoileal invagination, the patient was operated urgently. An internal hernia was identified through the Petersen space during diagnostic laparoscopy. In addition, there was a discrete amount of chyloid ascities at the subdiaphragmatic level and in the right gutter. We reduced completely the small bowel loops that produced the internal hernia by Petersen's space (figure 2) and we closed the Petersen's space with continuous monofilament suture 2-0 (figure 3).

After the intervention the patient presented a favorable clinical evolution, with good tolerance to the oral diet, so that on the third postoperative day she was discharged from the hospital.

The patient underwent clinical controls in a surgical outpatient clinic and was asymptomatic.

Case 2:

We present a 36-year-old woman with a history of laparoscopic Roux-en-Y gastric bypass surgery at another hospital 3 years ago. The patient presented as a late complication an ulcer in the gastrojejunal anastomosis with medical management.

The patient went to the Emergency Department of our hospital for continuous abdominal pain located in the epigastrium with hemicint irradiation towards the back, associating nausea and vomiting. She was afebrile and had intestinal transit.

On examination, the patient was in good general condition, afebrile, hemodynamically stable, conscious and oriented. The abdomen was soft and depressible, painful to the palpation in a generalized way, being more accentuated in epigastrium, without abdominal defense.

In the abdominopelvic CT with intravenous contrast, was observed findings compatible with left transmesenteric internal hernia with minimal free fluid in the pelvis (Figure 4). In the analysis was observed anemia with hemoglobin 10.6 g/dl, the rest of parameters were normal.

Due to the diagnostic suspicion of an internal transmesenteric hernia, we decided operate urgently. In the diagnostic laparoscopy we observed an internal hernia through the mesenteric gap of the loop foot with almost complete hernia of the entire intestine and twisted mesentery root (figure 5). We also observed abundant amounts of chylose ascites (figure 6).

Due to the difficulty of the surgical technique by laparoscopy, we decided to convert to mid-supraumbilical laparotomy, performing complete reduction of the small bowel loops, desrotating the meso and closing the mesenteric gap with continuous suture of unabsorbable monofilament 2-0 (figure 7).

After the intervention in the immediate postoperative period, the patient presented the appearance of a subcutaneous edema and localized abdominal discomfort in both, remaining hemodynamically stable. We observed a decrease in hemoglobin levels up to 6.8 g/dL, so we realized an abdominal angioTAC where was diagnosed a hematoma in the left empty abdominal wall without signs of active bleeding. The patient was clinical and hemodynamic stability, so that, we decided to manage conservatively with transfusion of red blood cells and intravenous iron.

After that, the patient presented a favorable clinical evolution, with a good oral tolerance and normalization in the hemoglobin values. Subsequently, the patient was discharged from de hospital on the sixth postoperative day.

Discussion

Chylose ascites or chyloperitoneum is defined as the accumulation of peritoneal liquid of milky aspect, with high content in triglycerides, with values higher than 200 mg/dL, although some authors consider a cut-off value of 110 mg/dL [9-12].

It's produced due to leakage or rupture of the thoracic or abdominal lymphatic system due to traumatic injury, neoplasms or obstruction of the lymphatic system.

Abdominal neoplasms, lymphatic abnormalities and cirrhosis are the most common etiology in Western countries. In eastern and developing countries, infectious aetiologies such as tuberculosis and filariasis represent the majority of cases. Other causes of chyloasy ascites are congenital, inflammatory, postoperative, traumatic and miscellaneous disorders [9].

Three underlying mechanisms have been proposed:

- 1) Obstruction of lymphatic vessels by neoplasms, leading to exudation through the wall of the dilated lymphatic vessel or rupture of the vessel. These patients often develop a protein-losing enteropathy that leads to chronic diarrhea (steatorrhea), malabsorption and malnutrition.
- 2) The exudation of the chyle through the walls of dilated retroperitoneal lymphatic vessels, for example in congenital lymphangiectasia or thoracic duct obstruction.
- 3) Acquired obstruction of the thoracic duct by trauma or surgery, causing a direct leakage of cilos through a lymphoperitoneal fistula [9,13,14].

The most frequent clinic of chyloascites is the progressive and painless abdominal distension, with a long time of evolution, although in patients with a history of abdominal surgery may present an acute onset. Other common symptoms are weight gain or loss, dyspnea due to increased intra-abdominal pressure, nonspecific abdominal pain, diarrhea and steatorrhea, malnutrition, edema, nausea, enlarged lymph nodes, early satiety, fevers and night sweats [10,13,15]. However, in chylous ascites after bariatric surgery the clinic is usually more insidious.

The diagnosis of chyloperitoneum after bariatric surgery is based on high diagnostic suspicion, supported by the finding of free fluid in abdominal ultrasound and abdominal computed tomography (CT). However, the lymphogammagraphy is the main study because it allows us to identify the lymphatic anatomy and the possible points of lymphoperitoneal fistula [16,17]. The diagnostic confirmation requires a diagnostic paracentesis and analysis of the chyle, which usually shows high concentrations of triglycerides, between 110 and more than 200 mg/dL, according to authors; an alkaline pH, proteins between 2.5 and 7 g/dL, and cells with predominance of lymphocytes [9-12].

Currently, there are few reported cases of chyloperitoneum associated with internal hernia after LRYGB, three of them with the appearance of an internal hernia through the mesenteric defect of the jejunal anastomosis [3,5,7]. There is only one reported case of chyloperitoneum associated with an internal hernia by Petersen's space after a LRYGB [8]. Two cases of chyloperitoneum have also been reported in patients with a history of laparoscopic adjustable gastric banding [4] and another case of chyloperitoneum associated with gastric neoplasia in patients with a history of LRYGB [6].

Treatment of chyloperitoneum must be individualized according to the cause that originates it, usually based on parenteral nutrition associated with somatostatin, octreotide or orlistat, a low-fat diet with medium chain triglycerides since their absorption is direct to the bloodstream without passing through the lymph. In some cases surgery may be necessary, but not as a first option [18].

In our presented cases the clinic was not suspected of chyloperitoneum, but of ileoileal invagination and internal hernia, so diagnostic-therapeutic laparoscopy was performed. We detected incidentally the chyloperitoneum associated to an internal hernia by Petersen's space and to an internal hernia through the mesenteric defect of the handle foot.

Conclusions

In a patient with a history of bariatric surgery who comes to the emergency room with abdominal pain. We must take into account the differential diagnosis of internal hernia, since this is one of the possible late complications that we can find and that implies a surgical urgency since it can compromise the patient's life. The performance of an urgent therapeutic diagnostic laparoscopy must be paramount, taking into account that we can also identify associated incidental chylous ascites.

Declarations

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Ethical Approval: Waived due to the retrospective and deidentified nature of this study.

Consent to Participate: Waived due to the retrospective and deidentified nature of this study.

Consent for Publication: Not applicable.

Code Availability: Not applicable.

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Figures

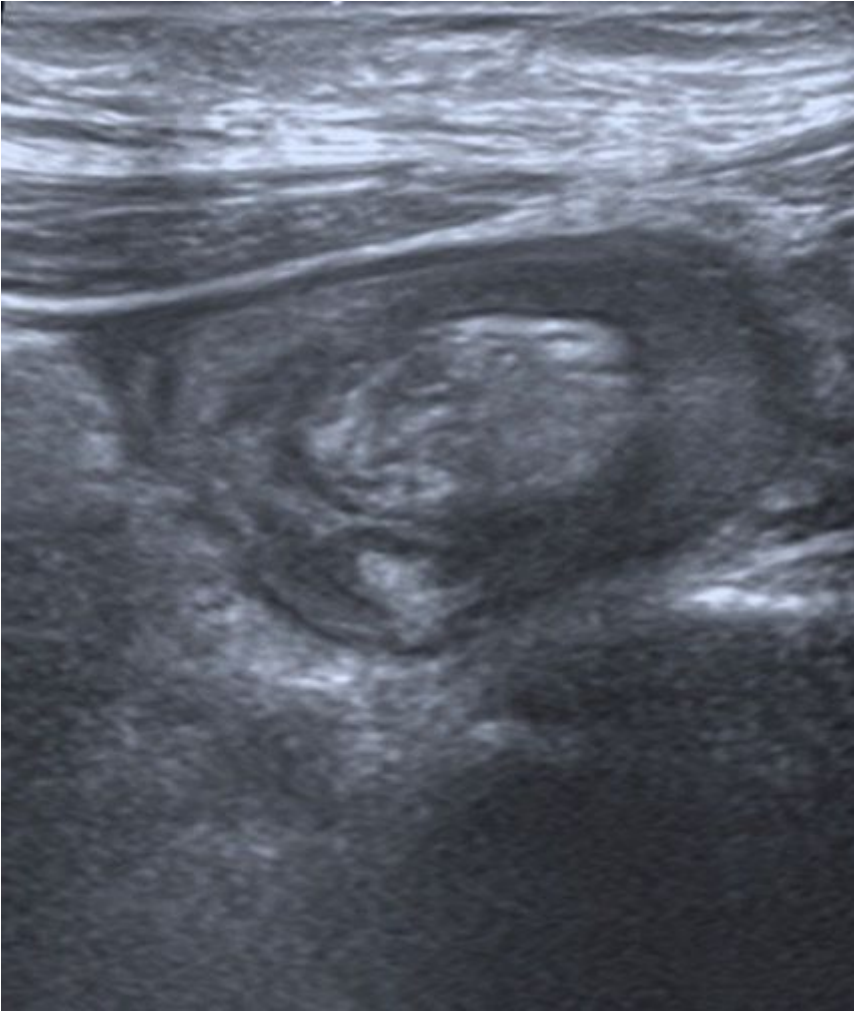


Figure 1

Ultrasound image of suspected ileal invagination.



Figure 2

Internal hernia by Petersen's space.

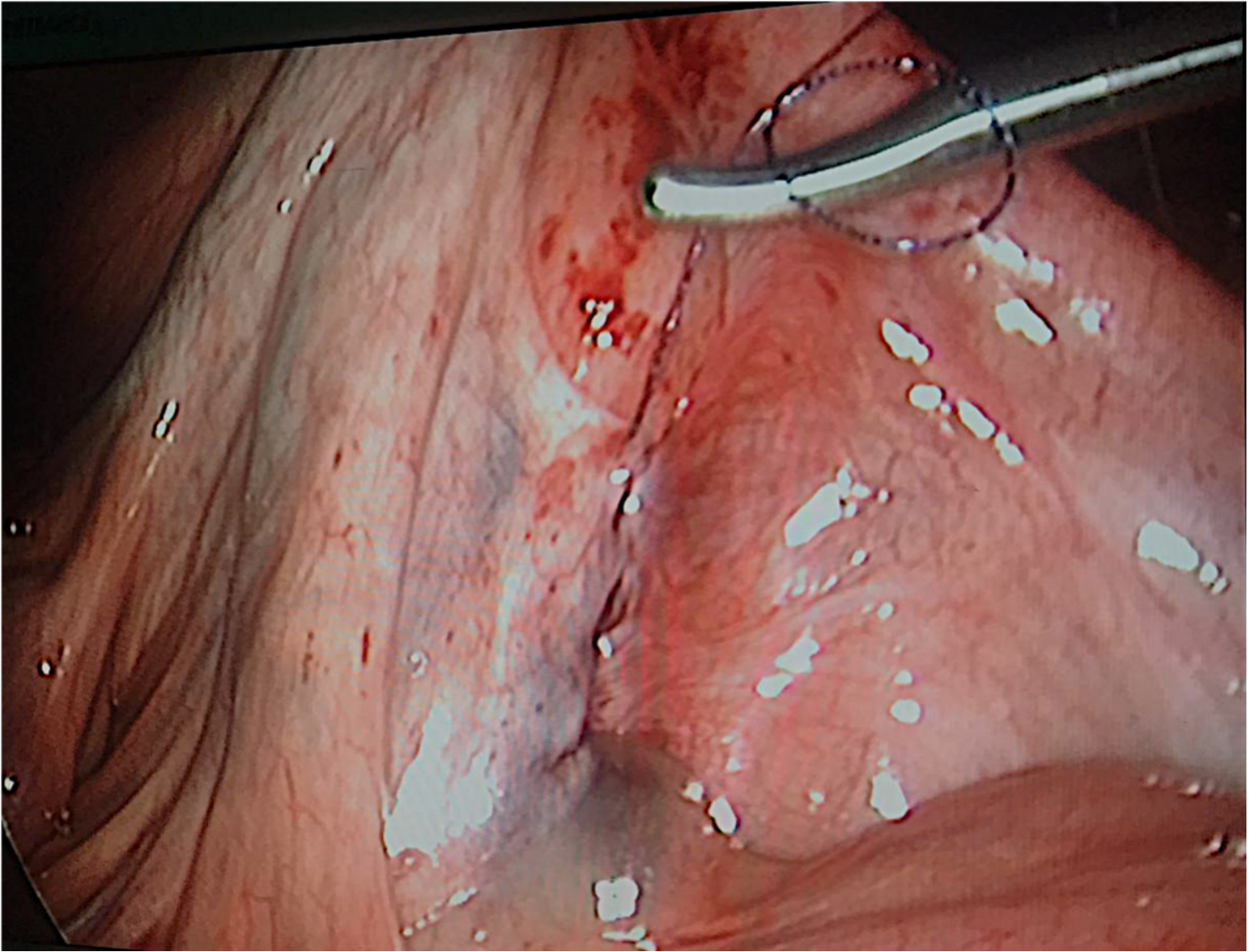


Figure 3

Petersen space closure with continuous monofilament suture.



Figure 4

TC Abdominopélvico: Left transmesenteric internal hernia with minimal free fluid in the pelvis.

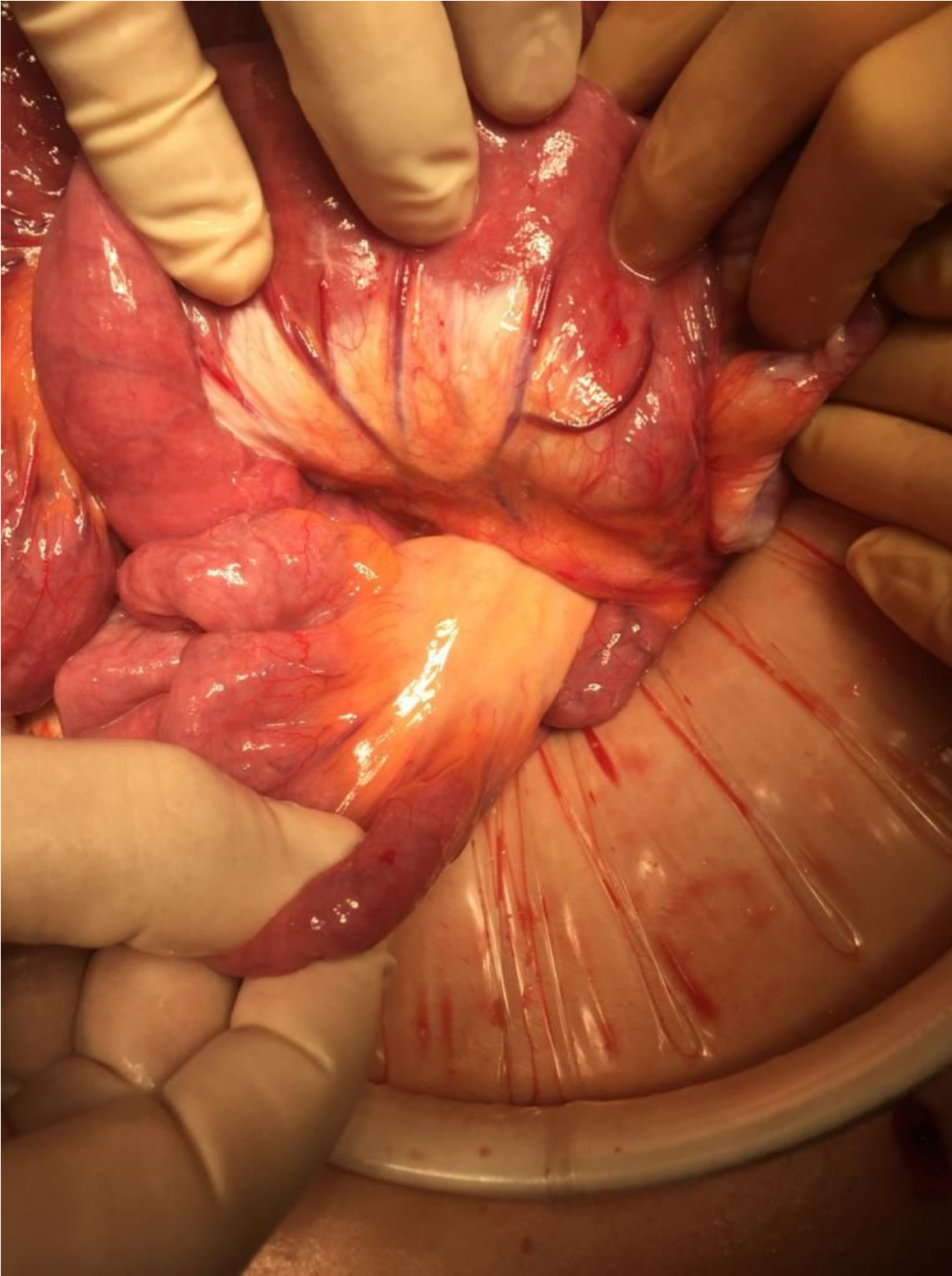


Figure 5

Internal hernia through the mesenteric gap of the loop foot.



Figure 6

Chylose ascites associated with internal hernia.

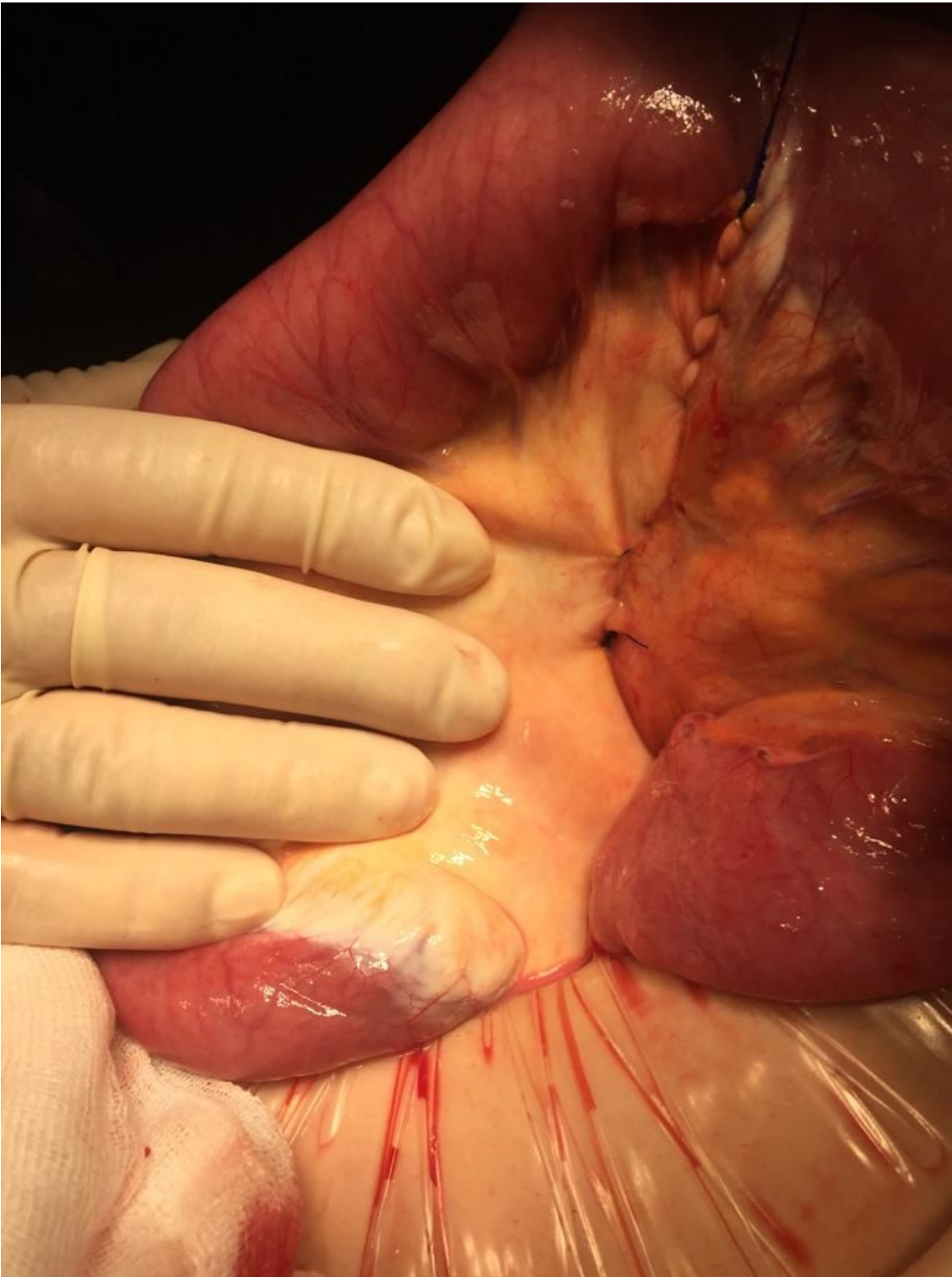


Figure 7

Closing mesenteric gap with continuous monofilament suture.

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