

Spreading Awareness: Bowel Perforation with Liposuction

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Summary: Complications with liposuction are not uncommon; some of these are very serious and can be life-threatening. In this case report, we represent a case of bowel perforation with liposuction. (*Plast Reconstr Surg Glob Open* 2020;8:e2715; doi: 10.1097/GOX.0000000000002715; Published online 24 March 2020.)

INTRODUCTION

Liposuction is one of the most common procedures performed in cosmetic surgeries, second only to breast augmentation according to ASPS statistics.¹ With the increased number of cases, the number of complications also increases, ranging from minor complications such as seroma, edema, and pain to more serious, life-threatening complications such as pulmonary embolism, pneumothorax, bowel perforation, and even death.^{2,3}

CASE PRESENTATION

A 41-year-old man presented for high definition liposculpture. The patient had a BMI of 33 kg/m². The patient had a previous exploration 10 years ago following a gunshot to the abdomen. During the exploration, intestinal repair was done with colostomy. Later, the patient underwent closure of colostomy and intestinal anastomosis with uneventful sequelae. The abdomen had a lower midline exploration scar and a postcolostomy closure scar (Fig. 1).

Liposuction was performed under local anesthesia with sedation using power-assisted liposuction: lipomatic device by Euromi. The patient was placed at 2 lateral positions followed by supine positions for completion of liposuction of the chest and abdomen. VTE prophylaxis included: elastic stockings over the leg, adequate hydration, early ambulation, and chemoprophylaxis with enoxaparin (40U, SC, 4 hours after the procedure and for 4 days).

Patient parameters and vitals were within the normal range throughout the procedure. Suction drains were placed in the inguinal region at the end procedure (through the same openings for liposuction).

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Received for publication November 15, 2019; accepted January 28, 2020.

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DOI: 10.1097/GOX.0000000000002715

On the first postoperative day, the patient complained of abdominal distention, mild abdominal pain (that was falsely attributed to liposuction), anorexia, and no passage of flatus or stools.

On auscultation, no intestinal sounds were audible (falsely attributed to ileus from pain/postoperative sequelae). The patient was instructed to become more ambulant and to drink plenty of fluids with laxative prescription.

On the second day postoperative, the fluid collected in the drains shifted in color from the regular red serosanguinous to green, denoting bile.

Immediate general surgery consultation was done. Abdominal x-ray (erect) was obtained as well as abdominal CT scan (Fig. 2). Leakage was detected on abdominal CT and immediate exploration was done.

The exploration was done through the previous exploration scar (low midline incision) and revealed a perforated jejunal intestinal loop. Resection of the perforated segment was done with immediate anastomosis (Fig. 3). Adhesions from the previous exploration created a relatively 'frozen abdomen' that limited the spread of the leakage, so immediate anastomosis was performed by the general surgery team.

The patient was followed up for the next few days, drains were removed, and the patient passed flatus on day 2 following exploration, and had a relatively smooth recovery. The results are shown 4 weeks after exploration (Fig. 4).

DISCUSSION

With the increasing number of cases performed worldwide, the incidence of the serious and rare complications following liposuction is increasing.⁴

Bowel perforation following liposuction has been documented several times in the literature.³⁻⁷ Fatalities have been reported with this condition due to difficult diagnosis, late presentation, the development of peritonitis, and the more complex management.

In this case, bowel perforation was diagnosed when the patient did not pass any flatus or stools for more than 24 hours. The greenish bilious content in the drain was enough to confirm the diagnosis of perforation even before proceeding with the imaging modalities.

Disclosure: The authors have no financial interest to declare in relation to the content of this article.



Fig. 1. Preoperative photos for male patient, 41 years old with a BMI of 33. Note the lower abdominal scars from previous abdominal surgeries.

Here is our theory for perforation. The laparotomy closure was done using nonabsorbable sutures. With the strong ongoing suction forces during liposuction, the sutures broke with intestinal loops emerging through the abdominal wall defect. With continued liposuction, the cannula must have hit one of the herniated loops and caused the perforation.

Preoperative abdominal CT scan (although it was not done) was crucial to assess the integrity of the abdominal wall (in addition to the clinical assessment), presence of hernias, the condition of the bowel loops, and their relation to the abdominal wall. This could have prevented these sequelae. Additionally, the decision to operate on this patient, with such a troublesome abdomen, was not right.

During the abdominal liposuction, it is crucial to always feel the tip of the cannula during the infiltration and the suction process (with the surgeon's nondominant hand). Areas of doubtful abdominal wall weakness or defects should not be treated. Another tip is to do the abdominal liposuction from above, cephalic side (ie, through nipple incisions). In this position, the cannula glides smoothly over the chest wall and the upper abdomen can be suctioned adequately. This will reduce the risk of abdominal perforation and additionally will reduce the risk of chest penetration, especially in patients with high, broad, and prominent chest wall. The operating table should be hyper-extended during abdominal liposuction to minimize the risk of perforation.

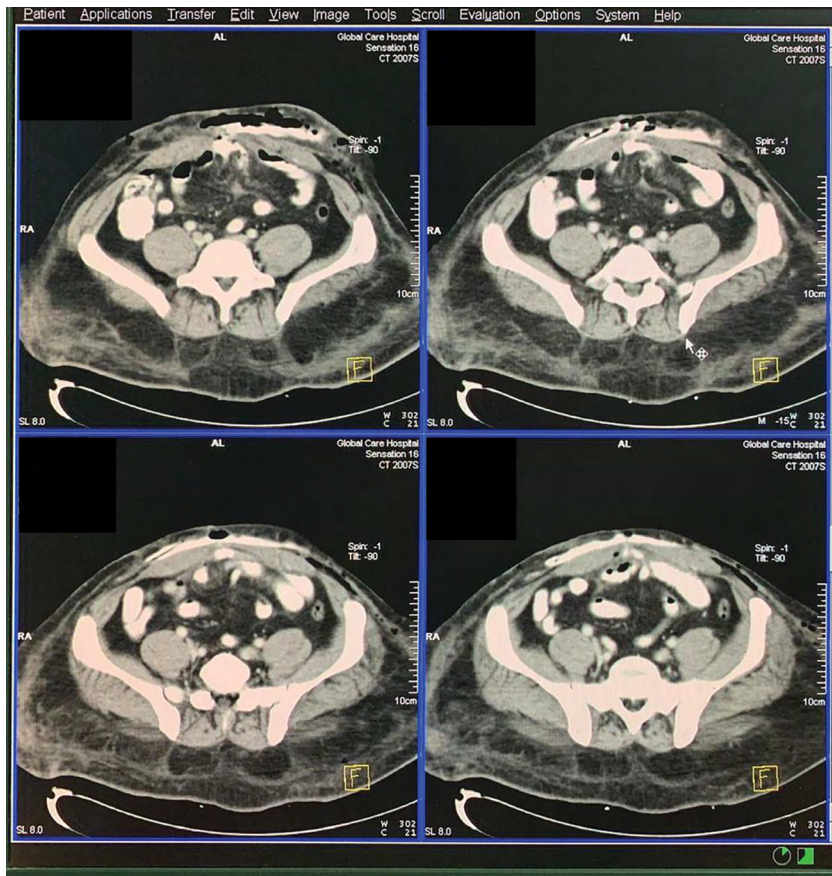


Fig. 2. A CT scan of the abdomen showing the leakage of the dye at the site of the perforation.



Fig. 3. Resected segment of perforated bowel with a liposuction cannula passing through the perforation.

The perforation risk might be higher in patients with a higher BMI due to increased abdominal content and pressure. Furthermore, the use of PAL might increase the risk due to the cannula reciprocal and to/forth movements, ie, it cannot be controlled by the surgeon. In contrast to manual liposuction, the cannula motion is wholly dependent on the surgeon and the risk of perforation would be, theoretically, less.

Although this event did not affect the patient's results, the stress of the event is heartbreaking.

We believe that this complication is under-reported in the literature. The authors might not want their names linked to such serious complication. It is crucial that



Fig. 4. Four weeks postexploration through a lower midline incision. Mild wound dehiscence was encountered and was treated with secondary sutures without eventful outcomes.

we have the initiative to report these complications in order to educate and spread knowledge.

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