G Chir Vol. 40 - n. 5 - pp. 429-432
September-October 2019

clinical practice

A dramatic and rare complication: bowel perforation following abdominal liposuction

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SUMMARY: **A dramatic and rare complication: bowel perforation following abdominal liposuction.**

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Aim. *The purpose of this study is to analyze a rare and under-reported complication of abdominal liposuction and the role of laparoscopy.*

Clinical case. *We report a case of bowel perforation after 7 days of abdominal liposuction and bilateral mastopexy. The patient presented clinical and radiological findings of bowel obstructive syndrome and bilateral peripheral pulmonary embolism. An emergency diagnostic laparoscopy was performed and confirmed the diagnosis of bowel perforation.*

Discussion. *Bowel perforation is a known but under-reported complication of abdominal liposuction, and it is characterized by a difficult diagnosis. The clinical presentation is characterized by a difficult diagnosis and severe complications. Bowel obstructive syndrome was constant, as our case and also peritonitis was never frank. This is an important point because it is one of the reasons for diagnostic delay. The development of laparoscopic surgery has changed the way to manage such conditions, where the diagnosis was doubt. In particular, when an acute abdomen occurs, laparoscopy may have three different roles: to confirm or not the diagnosis, to facilitate and guide a subsequent laparotomy or, finally, to entirely treat the disease.*

Conclusion. *The bowel perforation is a dramatic and underestimated complication of abdominal liposuction. Diagnosis is complex. A clinical and radiological investigation should be quickly performed. In doubtful cases, an emergency laparoscopy can confirm the diagnosis and guide a possible subsequent laparotomy.*

KEY WORDS: Bowel perforation - Laparoscopy - Liposuction.

Introduction

The public perception liposuction as a minor cosmetic surgery does not take into account the possibility of major complications with potentially fatal consequences. Abdominal liposuction is one of the most frequently performed aesthetic surgeries. The International Society of Aesthetic Plastic Surgery International Survey on Aesthetic/Cosmetic procedures performed in 2011 revealed that 1,268,287 liposuction procedures were performed by plastic surgeons worldwide (1). The overall complication rate has been reported to be in the range of 8.6-20% and the most common are seroma, hyperpigmentation, asymmetry, and hypertrophic scar (2). Major or lethal complications such as skin necrosis, infection, necrotizing fasciitis, pulmonary embolism, and even death have been reported in 0.02-0.25% of cases (1). Bowel perforation is a known but under-reported complication of abdominal liposuction, and it is characterized by a difficult diagnosis (3). The development of laparoscopy surgery in emergency has changed the way to manage such conditions thanks its diagnostic role to guide a possible subsequent laparotomy (4). We report a case of bowel perforation that occurs 7 days after abdominal liposuction and bilateral mastopexy, simulating an intestinal obstruction where an emergency laparoscopy was crucial to confirm the diagnosis.

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Clinical case

A 70-year-old woman, with only a history of abdominoplasty (2017), presented to our Emergency Department 7 days after undergoing abdominal liposuction and bilateral mastopexy. She was discharged the same evening of the procedure. Since postoperative day 1 the patient started experiencing abdominal pain for which she began taking ketorolac every 8 hours with good pain control. On postoperative day 7 the pain had increased in severity, characterized by a burning sensation in the mesogastrium, and was associated with episodes of nausea and emesis, abdominal distension and dispnea. On admission in our Emergency Department, she was dehydrated, her abdomen appeared tenderness and flat, with a generalized pain and guarding to palpation, and the peristaltic sounds were decreased in frequency and intensity. Her vital signs included a blood pressure of 120/70 mm/Hg, a pulse of 94 beats/min, a respiratory rate of 23 breaths/min and a temperature of 37.5°C. Laboratory tests showed normal white blood cells number (7.24×109/L), with increase PCR (94 mg/dl). A nasogastric tube was position with 500cc of bilius stagnation. The patient underwent an abdominal computed tomography (CT) scan with intravenous contrast that show jejunal and ileus distension and an ileal abrupt size reduction and profuse intraperitoneal liquid without free air (Figure 1). The thoracic CT scan showed also a bilateral peripheral pulmonary embolism (Figure 2). Therefore, since bowel obstruction suspicion, an emergency diagnostic laparoscopy was performed. In the operating theater, after the first laparoscopy entry in the abdomen with open Hasson technique, profuse free intestinal liquid, generalized peritonitis and a small ileus perforation (5 mm) were found. We decide to carry out a laparotomy in order to suture the ileus perforation and plenty lavage of the abdominal cavity. One drainage was positioned in Douglas space. The postoperative course was uneventful. A lower bilateral limbs color-doppler ultrasound was performed and confirmed a left deep venous thrombosis. Therefore an anticoagulant low-molecolar- weight heparin was administrated. The patient was discharged on 7 post-operative day.

Discussion

Abdominal liposuction is one of the most frequently performed aesthetic surgeries and it is considered to be a safe procedure with a low rate of minor and local complications, a high rate of patient satisfaction and, most importantly, very low mortality (1, 2). Liposuction conducted by trained physicians in patients without contraindications has a

Figure 1 - Abdominal CT scan shows jejunal and ileus distension and an ileal abrupt size reduction.

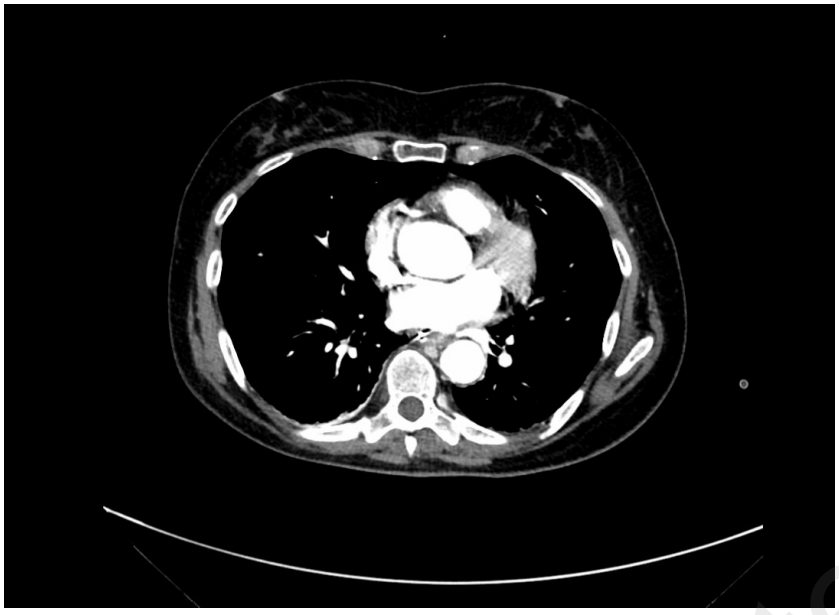

Figure 2 - Bilateral peripheral pulmonary embolism.

mortality rate as low as 0.019% (5). The overall complication rate has been reported to be in the range of 8.6-20% and the most common are seroma, hyperpigmentation, asymmetry, and hypertrophic scar (2). Major or lethal complications such as skin necrosis, infection, necrotizing fasciitis, pulmonary embolism, and even death have been reported in 0.02-0.25% of cases (1).

Deep venous thrombosis, associated with pulmonary embolism and death, is the most frequent serious complication of liposuction (6). In our case, the Thoracic CT scan showed an incidental pulmonary embolism with the suspicion of fat embolism. Fat embolism is a syndrome caused by dissemination of fat particles, which can lead to blockage of the vessels of multiple organs. The syndrome often occurs after long-bone fractures or an orthopedic surgery and rarely after liposuction. Actually, fat embolism after a liposuction is more severe than due to other etiologies, with a 15% risk of death (7). In our case patient presented a deep venous thrombosis confirmed by color-doppler ultrasound.

The frequency of visceral perforation is underestimated: in literature only few case reports and case series are reported (8, 9). The clinical presentation associated with a bowel perforation following abdominal liposuction is characterized by a difficult diagnosis and severe complications (1, 8). The initial signs and symptoms can be obscured. In the review of 19 cases of bowel perforation after liposuction reported by Zakini et al. (1) clinical examination noted abnormally intense pain in most of all cases, which is usually an early sign. Bowel obstructive syndrome was constant, as our case and also peritonitis was never frank. This is an important point because it is one of the reasons for diagnostic delay. Diagnostic efforts should be made quickly and an abdominal CT scan is mandatory; however, the absence of free air does not rule out the diagnosis of bowel perforation (10). Laparoscopy is a useful diagnostic tool when preoperative findings are not conclusive. The development of laparoscopic surgery has changed the way to manage such conditions, where the diagnosis was doubtful. In particular, when an acute abdomen occurs, laparoscopy may have three different roles: to confirm or not the diagnosis, to facilitate and guide a subsequent laparotomy or, finally, to entirely treat the disease (11, 12). Our patient presented clinical and radiological findings of bowel obstruction syndrome and an emergency diagnostic laparoscopy was performed. On the contrary, with our surprise, a generalized peritonitis by a small ileus perforation were found.

The liposuction cannula is responsible of perforations and ileus is the most common organ perforated (13). Perforations of viscera are single or multiple. A thin abdominal wall and weakness or diastasis of the rectus abdominis muscle probably increase

the risk of intra-abdominal perforation (14, 15). A history of abdominal surgery as previous liposuction or abdominoplasty, calls for more cautious liposuction. In fact, even if our case had no history of intra-abdominal surgery, she had an abdominoplasty in the last years.

Conclusion

The public perception liposuction as a minor cosmetic surgery does not take into account the possibility of major complications with potentially fatal consequences. The bowel perforation is a dramatic and underestimated complication. Diagnosis is complex and can simulate an obstructive bowel syndrome. Therefore, a clinical and radiological (CT Scan) investigation should be quickly performed. In doubtful cases, an emergency laparoscopy can confirm the diagnosis and guide a possible subsequent laparotomy.

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