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Bowel Injury following Liposuction. A rare Complication of Cosmetic Surgery

CASE REPORT

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Abstract

Liposuction is one of the most commonly performed surgical procedures for aesthetic reasons. It is often performed as day-case surgery and is thought to be a low-risk 'minor' procedure. We present a rare case of necrotising abdominal wall infection due to small bowel injury resulting in extensive abdominal wall debridement and the development of an enteric fistula.

Keywords
Liposuction; Complications; Enterocutaneous Fistula.

Case presentation

Mr G is 56-year-old previously fit and well male that presented to our institution following liposuction surgery performed under general anaesthesia at another private hospital. His liposuction surgery was initially planned as a day-case procedure however due to post operative discomfort Mr G stayed overnight in hospital.

Mr G presented to our emergency department 6 days after the procedure with significant abdominal pain and bloating. He had a septic presentation with marked abdominal wall erythema, a temperature of 38.4 degrees Celsius and tachycardia (pulse 120/min). Examination of his abdomen revealed widespread crepitus.

Investigations

Biochemical investigations demonstrated a white cell count of 14.2 x109/L and C-reactive protein of 396mg/l. Haemoglobin, coagulation and renal function studies were normal. An erect chest X-ray demonstrated free intra-peritoneal air.

Treatment

Mr G was resuscitated with intravenous fluid and commenced on broad spectrum antibiotics. He was then taken to the acute operating theatre. Exploration of his abdomen confirmed necrotising infection of the abdominal wall and widespread bile staining. **Figure 1** demonstrates the wide extent of undermined tissue as a result of the necrotising infection and a fascia puncture site can be seen.

Figure 1: Intra-operative photograph demonstrating fascia puncture site.

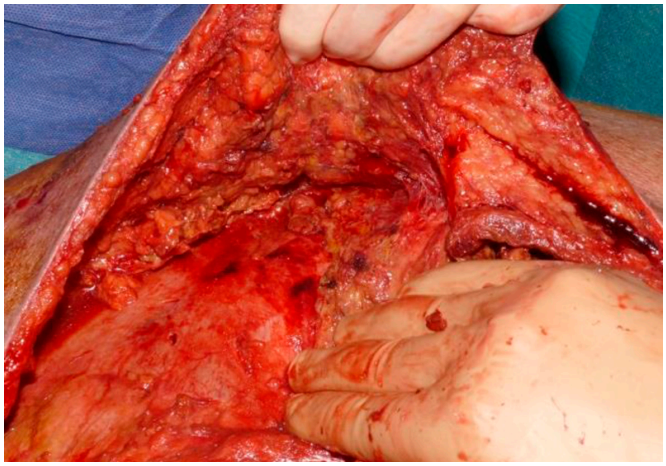

Figure 2: Clinical photograph 5 months following injury demonstrating superficial enteric fistula.

The procedure progressed to a laparotomy which found several puncture sites in the small bowel. A 'damage-control' strategy was undertaken with the injured small bowel resected using a gastro-intestinal stapler and formation of a temporary abdominal closure. Mr G was taken to ICU intubated for further resuscitation. The following day Mr G returned to theatre for repeat assessment of his abdomen. A further debridement was undertaken and a stapled small bowel anastomosis was performed to restore gastro-intestinal continuity. His abdominal fascia was able to be closed however due to the large amount of soft tissue loss a negative-pressure dressing was applied.

Outcome and follow-up

Mr G was managed with serial dressing changes, however unfortunately he developed an enteric fistula at the superior aspect of his wound. This was controlled with stoma therapy involvement, nil by mouth and parenteral nutrition. The fistula eventually matured to a spouting stoma seen in **Figure 2**. Six months following the initial injury Mr G underwent a further laparotomy and resection of his fistula. This proved very straightforward and after an uneventful 7-day post operative course Mr G was discharged home.

Discussion

This case highlights a number of important learning points. Liposuction is a procedure that is performed for cosmetic reasons on typically healthy individuals. Liposuction is associated with a low complication rate and patient satisfaction following the procedure is high [1]. Many complications relate to the ultimate cosmetic appearance however there are potentially life threatening complications. These include pulmonary embolism, abdominal fascia penetration, thoracic penetration, cardiorespiratory failure, lidocaine toxicity and haemorrhage [2-4].

Bowel injury following liposuction is rare and has only been reported in 12 case reports [5]. The actual incidence is not truly known as all of the current literature is based on case reports, questionaries and surveys [2, 6] and therefore subject to reporting bias. The morbidity associated with bowel injury is varied however it also carries significant mortality. A survey conducted by Grazer et al. found that visceral perforation was responsible for 14.6% of fatal outcomes following liposuction [2]. Here we have presented the first published case of the development of an enteric fistula which led to a prolonged period of medical and surgical management and significant morbidity.

Our case demonstrates the consistent theme of delayed diagnosis [7,8]. As with other reports Mr G had early symptoms of abdominal pain, this was

so severe that it led to an overnight admission for what was meant to be a day-case procedure. This should have prompted early concern. Mr G was a healthy individual with no comorbidities which likely accounted for the lack of initial physiological derangement. By the time he presented to our emergency department almost one week after his liposuction he had clear features of sepsis.

The delay to surgery from initial injury led to marked peritonitis with significant bowel oedema. Despite the measures of 'damage control' principles Mr G developed an enteric fistula which lead to prolonged hospitalisation. The fistula may have resulted from an unrecognised small bowel injury or the result of a leak from the small bowel anastomosis performed at the re-look laparotomy.

Risk factors for intestinal penetration have been described and include abdominal hernias, rectus divarication, previous abdominal surgery, and obesity [9]. This case demonstrates that injury may still occur in patients without these higher risk features. A low index of suspicion is required in the assessment of abdominal pain following liposuction and the diagnosis may be made on a simple erect chest x-ray, as was the case in our patient. Early diagnosis and surgical management may have led to reduced morbidity.

Learning points

- Abdominal pain following liposuction out of proportion to the level expected should prompt further investigation.
- Systemic signs of sepsis may not be present until late in healthy patients and so their absence should not exclude the need for further investigations.
- The early identification and treatment of bowel injury may limit the morbidity of the initial injury.
- At laparotomy for fascia penetration a careful inspection of all abdominal contents is required to be sure that no injuries are missed.

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Competing and Conflicting Interests

Amit Kumar Reddy has no conflicts of interest to declare.

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