**Liposuction for problematic stomas: a case report and review**

Jessica Papali’i-Curtin, Will McMillan, Jon Potter, Maree O’Connor

Liposuction has long been used to improve the cosmetic appearance of the abdomen. A new approach has been directed at treating stoma appliance adherence problems. Poorly fitting stoma appliances result in excoriation of the skin, leaking around the stoma bag and embarrassment. In patients with poorly fitting appliances due to the contour of the abdominal wall, and in those with retracted stomas, liposuction may provide a low risk, fast, and easy alternative to surgical stoma revision.

**Case study**

Our patient was a 48-year-old female with an ileal conduit formed in infancy as a result of spina bifida. She had a BMI of 29 (weight: 70kg, height 155cm) and was confined to a wheelchair. She presented with symptoms of daily leaking around the appliance site, frequent stoma bag changes, and embarrassment, causing marked restriction of activities. She had had two previous surgical stoma revisions for symptom control, both of which were preceded by weight gain. The first revision was successful at achieving good appliance adhesion and decreased leaking for 18 years. The most recent revision was performed in 2006 and was effective in symptom control for a further 9 years. In 2015, the patient noted worsening leakage from the urostomy and was seen in a general surgery clinic. A variety of convex urostomy pouches and accessories—such as seals, pastes, collars and belts—were trialled over a long period of time with little success. The patient was reluctant to attempt a third surgical stoma revision. She was referred to the plastic surgery service for consideration of parastomal liposuction.

On examination, there was a bulge of subcutaneous fat at 12 o’clock above the stoma that protruded further when sitting/standing. The stoma spout protruded by 1cm centrally and had areas of retraction peripherally (3 to 8 o’clock).

Liposuction was undertaken with the use of preoperative gentamicin, cefazolin and enoxaparin. 200mls of infiltrate solution (normal saline 1 L, 40mls 0.5% Marcaine, 1mg Adrenalin) was infiltrated into the parastomal area. Using 5 and 4mm liposuction cannulas, approximately 200mls of fat was aspirated from the parastomal area via three ports. Care was taken to prevent damage to the ileostomy itself by using a Hegar uterine dilator to control the position of the stoma through the subcutaneous fat. The patient remained in hospital overnight for observation. A pressure binder was applied for two weeks.

The patient was reviewed in clinic at 3 months, and by phone call at 6 and 9 months. Our patient was very satisfied with the results. The 36-item Short-Form Health survey (SF36) and a 4-point satisfaction scale was administered assessing the patient’s quality of life 1 week prior to, and 1 month after the procedure. This demonstrated improvement in satisfaction, as well as social, emotional and physical domains. At the 3-month post-operative assessment, the stoma spout protruded further and the superior bulge and inferior area of retraction were flattened. The stoma bag achieved better adhesion and the parastomal surface was more even. The patient reported markedly decreased leakage from daily episodes prior to the procedure, to <1 per fortnight post-operatively. She also reduced the use of stoma bags from 14 per week to 2–3 per week, resulting in a weekly cost reduction from $336 to $72. These changes were persistent at 9 months.
CLINICAL CORRESPONDENCE

Discussion

The appeal of liposuction for parastomal sculpting is that the procedure is quick, can be done under local anaesthetic in day surgery, and it carries fewer risks than other forms of stoma revision. It could provide elderly, or comorbid patients, or those with multiple prior stoma revisions with a safer option to surgical revision. The saving on stoma accessories for our patient amounted to $13,728 per year, making the liposuction a cost-effective option.

Another advantage of liposuction is that a significant amount of adipose tissue can be removed. Abdominal adipose deposits provide a number of challenges for stoma formation and function and liposuction can provide both parastomal and wider abdominal fat removal. This can result in a flatter parastomal area, less stretch on a stoma traversing a thick abdominal wall, and symmetry can be achieved on the opposite side of the abdomen. If there is stoma stenosis or herniation, liposuction may not be the preferred option.

Despite anecdotal evidence that liposuction has been relatively widely used for treatment of stoma problems, there are only 17 cases described in the English literature. In these cases, the procedure was undertaken to address problems created by parastomal fat deposits: poorly fitting stoma appliances; leakage; excoriation of skin; discomfort; or obstruction of stoma. Success of the procedure was measured by patient satisfaction, frequency of leaking accidents and bag changes, local skin inflammation changes and, in the cases of continent urostomies, the ability to catheterise. In all cases there was improvement in one or all of these domains.

Excess skin folds exacerbate appliance fitting, as the optimal surface for a stoma site is one that is smooth and flat. This was a particular challenge with our patient, as her wheelchair-bound posture exacerbated the curvature of the abdominal wall. The patient cases described in the literature all had some degree of truncal obesity. It is likely that non-obese people with similar stoma problems could also benefit from parastomal...
Liposuction, provided the primary problem was parastomal fat deposits.

Current literature suggests that this is a low-risk procedure. In the 17 cases described, no complications were reported. Bowel perforation is a well-discussed potential complication. The techniques described to prevent perforation included inserting a probe or digit into the stoma to provide tactile feedback, and continuous palpation of the instrument tip while suctioning. Bacterial seeding is the other major foreseeable complication during this procedure. None of the reported cases developed a wound infection. The methods of infection prevention described included the use of betadine swabs inside the stoma, prepping a large surface, a plastic adhesive drape over the stoma, double-draping with the second drape extending beyond the first, IV intraoperative broad spectrum antibiotics and postoperative oral antibiotic. The conclusion regarding complication rates of this procedure was limited by variable follow-up.

There are obvious limitations on drawing conclusions from such a limited pool of information. Firstly, the data on the long-term success rates of this procedure is limited (follow-up range: 1–51 months). Therefore, it is difficult to comment on how resilient the liposuction treatment is over time. There is also limited information on the degree to which the procedure improved the patient’s function or quality of life; and despite no complications being reported, each case described may have had differing thresholds for what was considered a ‘complication’. There is also likely to have been significant differences in the treatment methods between cases.

**Conclusion**

From the limited cases in the literature, liposuction for problematic stomas appears to be a safe and simple procedure that achieves good results with minimal risk of complications.

**Competing interests:**

Nil

**Author information:**

Jessica Papali’i-Curtin, Dunedin Hospital, Dunedin; Will McMillan, Plastic Surgery, Dunedin Hospital, Dunedin; Jon Potter, General Surgery, Dunedin Hospital, Maree O’Connor, General Surgery, Dunedin Hospital, Dunedin, New Zealand.

**Corresponding author:**

Jessica Papali’i-Curtin, Dunedin Hospital, Dunedin, New Zealand.

j.papaliicurtin@gmail.com

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