HIGH RISK SUCTION ASSISTED LIPECTOMY: PRE–OPERATIVE CONSIDERATIONS AND MANAGEMENT

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PURPOSE

Present the clinical experience of a retrospective study in which patients considered to be high risk candidates underwent an abdominal reconstruction and suction assisted lipectomy. A review of the pre operative considerations is made and a description of the management is presented.

MATERIALS AND METHODS

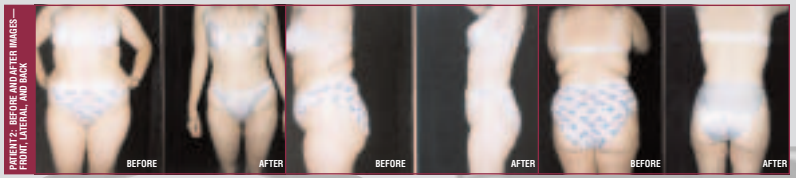
The 120 patients operated upon by the lead author are part of the private practice of the **Aesthetic Center for Plastic Surgery in Houston, TX.** The study includes the period of January 1998 to December 2003. The longest follow-up was 4 years; the shortest was 9 months. Ages ranged from 19 to 65 years. Ninety percent of the patients were female.

Due to pre-operative conditions and other associated factors such as age, excessive weight, and daily medications used, patients were considered by the surgeon and the anesthesia team to be high-risk candidates for these procedures. Patients were all ASA I–II, with realistic expectations and a willingness to change old habits.

TECHNIQUE

Pre-operative markings were done in a standing position. General endotracheal anesthesia was administered. After the patient was safely intubated and hydration was stabilized by monitoring vitals signs, urine output was controlled by placement of a Foley catheter. Maintenance of body temperature was achieved using warm, humidified, inhaled oxygen and inhaled anesthetics. In addition, warm air by convection with either a "Bair Nugger" or "Warm Touch" system, and a heating pad on the bed were provided. After induction, patients received an intravenous bolus of Decadron. Tumescent infiltration was performed with Klein solution, which allows increased fat extraction and minimal blood loss. A "super wet" technique is preferred by the author, with a 1:1 ratio of infiltrate to aspirate. Suction lipectomy was performed with a conventional machine using 4 and 5mm blunt cannulas.

Post-op care involved home visits by an experienced nurse following the day of discharge. A 23-hour, onsite observation period was mandatory in cases over 5 liters. Patient received SinEcch (Homeopathic Arnica Montana) one day prior to surgery, and up to 3 days post-op, to reduce bruising. Compression garments were used for 4–6 weeks. Aggressive body massage was administered once a week for the first month after surgery.



RESULTS

Key points in the management of these patients:

- Trans-operative intermittent compression stockings
- Trans-operative and post-operative heating devices
- Patient positioning with unique padded areas
- Use of anti-embolic stockings post-op for 48 hours
- Use of patient-controlled pain relief systems (PCA pump) in the post-operative period
- Body temperature stringently maintained at 37° Celsius

Our results indicate an average of 3–4 hours of operating time, with an average volumen of 5 liters and a range of 1.5–14 liters.

COMPLICATIONS

The most common complication was seroma formation, followed by infection (less than 0.1%), and localized skin necrosis (patchy abdomen).

We had transient pulmonary edema due to fluid overload (2 cases), which responded to intravenous administration of Furosemide and required 23 hours of close observation. We have not had a case of pulmonary embolus, which we prevent with the use of intermittent compression stockings. Blood loss has not being significant enough to require transfusions. In addition, we have not had Lidocaine toxicity, fat emboli, or intraabdominal viscus perforations (which have been reported to cause general sepsis and death). We believe this can be prevented by performing a careful evaluation for hernias before surgery, coupled with the use of blunt suction cannulas. Deep venous thrombosis (DVT) was the most serious complication encountered (4.3%). The incidence of DVT was equal to the one reported in the literature. Patients were transferred from the outpatient facility to the hospital and received anti-coagulation treatment.

This study indicated the need to develop a new post-operative protocol and start a prospective study to assess the risk management in the future care of these patients.

Final recommendations based on results of this study:

- Adequate patient selection (ASA I or II of the anesthesia risk classification)
- Use of a hospital or fully certified outpatient facility
- Experienced O.R. team with board-certified anesthesiologists and Registered Nurses on staff
- Pre-operative internal medicine consultation is recommended if a volumen of more than 6 liters is anticipated.
- Strict Fluid Management:
  - Foley catheter in all patients
  - Strict balance of input/output
  - Robert's Formula for fluid replacement
  - Warm tumescent fluid to 37° C before infusion.
  - Overnight stay for aspirate greater than 5 liters
- Use of heating devices and warm, humidified, inhaled oxygen
- Use of antibiotics pre- and post-operatively
- Close and strict post-op follow-up:
  - Frequent visits
  - Experienced visiting nurses
- Strict monitoring of body temperature during and after surgery is of paramount importance to prevent significant complications.

CONCLUSION

This study covers the clinical experience of 120 patients considered to be high-risk candidates for abdominoplasty and suction-assisted lipectomy. The authors believe that with careful selection of patients and the technical considerations described herein, these procedures can be performed safely and reliably and can be undertaken by a competent, experienced plastic surgeon.

REFERENCES

1. Umeda T., Ohara, H., Hayashi, O., Ueki, Masato and Hata Y.: "Toxic Shock Syndrome after Suction Lipectomy" *Plast. Reconstr Surg.* 106:204, July 2000