highplasty encompasses surgical tightening of the upper leg, which leaves a scar in the groin crease or along the long medial axis of the thigh, or a combination thereof. Regardless of technique, the most difficult complications to correct are those of lymphatic origin.

Lymphatics in the medial thigh run superficial to the superficial fascial system; thus, it follows that any sharp dissection beyond skin deep in the medial thigh runs the risk of lacerating the lymphatic channels. Liposuction can remove fat from the thigh without disrupting lymphatic flow, as evidenced in ex vivo studies. It logically follows that a thigh lifting procedure using skin-deep incisions and aggressive liposuction would have a lower risk of lymphatic complications. A similar procedure with more conservative superficial-only liposuction has been described recently with excellent results. We turn to our previous experience in avulsion brachioplasty and describe a similar technique for thighplasty.

PATIENTS AND METHODS

All consecutive primary medial thighplasty patients from January of 2009 through December of 2014 were reviewed retrospectively at a private surgery center. Inclusion criteria were all patients who underwent thighplasty and had minimum 30-day follow-up. The following data were collected: age, body mass index, fat removed, adjunct procedures, weight of resected tissue, hematoma, seroma, lymphocele, wound dehiscence, revision procedures, unplanned admissions, unplanned returns to the operating room, prolonged use of antibiotics, swelling beyond 3 months, and length of follow-up. Major complications were considered unplanned returns to the operating room or unplanned admissions. All others were considered minor. Procedures were performed by one of two surgeons (J.P.H. and B.G.K.). All three authors have performed this procedure on patients included in the data collection for this article, which conforms to the ethical principles set forth in the Declaration of Helsinki for research on human subjects.

Operative Technique

Markings

Markings began by drawing the ideal position for the resultant scar along a line from the pubic

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Summary: When choosing a thigh lift operation, the surgeon also chooses which complications he/she will be managing, and the most dreaded after conventional thigh lifting are those of lymphatic origin such as lymphocele or lymphedema. The authors describe avulsion thighplasty, a technique that spares lymphatics by using aggressive liposuction beneath the planned resection area, and thus minimizes lymphatic complications. The technique is outlined and complications are detailed over a 6-year period with long-term follow-up. The risk of major complications is found to be low and the procedure is found to be safe. Patients must be counseled that the risk of minor complications, such as small wound dehiscence or need for a later scar revision, is substantial. (Plast. Reconstr. Surg. 137: 84, 2016.)

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symphysis to the medial condyle of the femur. The scar could be extended proximally into the inguinal crease or distally below the knee if needed.

The planned excision was estimated by gentle skin pinch, tapered at the ends, and realignment marks were made. After the patient was anesthetized, the markings were rechecked before any local infiltration. A penetrating towel clamp was used to confirm appropriate tension (Fig. 1). If the towel clamp was difficult to close because of tension, the lines were simply moved in and remarked. This was a subjective test; however, through experience, surgeons will become confident with confirming markings. Only a single clamp should be used because using multiple clamps can lead to overresection via the creep principle.

Markings were tattooed with methylene blue to prevent wash-off during liposuction. Tumescent was infiltrated only under the area of planned resection. If needed, additional liposuction could be performed outside the planned resection area.

Aggressive liposuctioning beneath the area to be excised was conducted with a 4-mm exploded basket cannula until a distinct, dished-out deformity (Fig. 2). The marks were rechecked with a towel clamp, and adjustments were made before making incisions through the dermis, which sprung open. A Kocher clamp was used to avulse from proximal to distal to preserve the branching blood vessels, cutaneous nerves, and lymphatics (Fig. 3). The skin edges were temporarily stapled and then closed in two layers with 3-0 poliglecaprone (Monocryl) in the superficial fascial system/deep dermis and 4-0 running subcuticular poliglecaprone (Monocryl).

RESULTS

A total of 42 thighplasty patients with at least a 30-day follow-up were reviewed. The average follow-up was 550 days. Classic Lockwood medial thighplasty accounted for 14 procedures, and a vertical component was used in 28 patients. The average age was 49, and the average body mass index was 26.5. The average amount of fat liposuctioned per thigh was 845 ml, with an average tumescent per thigh of 2020 ml. Eighty-four percent of patients had a procedure done outside the area of the thigh during the same surgery.

The incidence of deep venous thromboembolism and pulmonary embolism was zero. There was only one major complication, a hematoma that required operative intervention. Overall, a total of 17 patients (40 percent) required dressing changes at some point in their postoperative course. Two patients (5 percent) developed cellulitis that responded to oral antibiotics. One patient (2 percent) had a small (<10 cc) seroma that resolved with serial aspiration. There were zero incidences of lymphedema or lower extremity swelling. The overall complication rate was 59 percent. Statistical significance was not calculated given the small sample. Sixteen patients had a scar revision procedure within 1 year of their original surgical date (38 percent).

DISCUSSION

One of the most difficult problems to manage after a thigh lift is a recurrent lymphocele or lymphedema, and particular mental focus has been paid to preventing this complication as
opposed to treating it. In order to maximally preserve lymphatic drainage to the inguinal basin, while still removing the bothersome fatty deposits in the medial thigh, we recommend an aggressive and thorough liposuctioning of the planned resection area, followed by a skin-only incision, leaving arteries, veins, and lymphatics intact. (See Video, Supplemental Digital Content 1, in which Joseph P. Hunstad, M.D., outlines the surgical markings and then performs a vertical thigh lift using the avulsion thighplasty technique, available in the “Related Videos” section of the full-text article on www.PRSJournal.com or, for Ovid users, at http://links.lww.com/PRS/B515.) Because thigh lymphatics run superficial to the superficial fascial system, it is integral that this plane not be sharply violated to preserve lymphatic function.

As others have reported after thighplasty, the risk of wound breakdown is substantial, particularly at areas of high tension. Our rate of partial wound dehiscence was 40 percent, slightly higher than other surgeons studying liposuction-assisted thighplasty. These wounds typically require dressing changes and heal without issue. Our overall complication rate was 59 percent. This is attributed to a number of factors. Foremost, we are liberal in our use of the word “complication,” and we even considered a scar revision to be a minor “complication”; however, some surgeons do not consider it so. Widening of scars in the thigh is a known issue after thighplasty, and we have experimented with a number of different sutures, dressings, and support garments to combat this, without any overwhelming difference.

Fig. 3. After the skin was avulsed from proximal to distal, the lymphatics, vessels, and cutaneous nerves could be seen intact at the base of the wound. Note the minimal bleeding and complete removal of subcutaneous fat. The great saphenous vein was visualized.
Also, we are following up with these patients as far as 4 years into this series.

CONCLUSIONS

Avulsion thighplasty has a low incidence of major complications and minimizes the difficult-to-treat problems of lymphatic origin. It is imperative to counsel patients preoperatively about the high risk of minor complications and that wound breakdowns are the rule more than the exception, and scar revision may be necessary. Knowing this, we still find this a rewarding procedure for patient and surgeon alike (Fig. 4).

Christopher D. Knotts, M.D.
Austin-Weston, The Center for Cosmetic Surgery
1825 Samuel Morse Drive
Reston, Va. 20190
c.knotts.md@gmail.com

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Fig. 4. A 39-year-old woman seen preoperatively (left) and at 5 months postoperatively (right).