(*continued*)

photograph), which indicated that the cannula was superficial to the subcutaneous scar, and contacted the dermis tightly and the liposuction-curettage was effective. If passing the cannula through the subcutaneous scar is difficult, more aggressive strength should be used and creation of a subcutaneous tunnel may be necessary.

Table 1. Postoperative Evaluation of 31 Patients (55 Axillae) after Modified Liposuction-Curettage for Secondary Axillary Bromhidrosis with Subcutaneous Scarring by Using a Modified Three-Hole or Four-Hole Liposuction-Curettage Cannula*

Variable	No. of Axillae (%)
Malodor elimination	
Excellent (neither the patient nor persons nearby were aware of malodor)	44 (80.0)
Good (very marked improvement and minimal malodor sometimes occurs during heavy perspiration)	9 (16.4)
Fair (marked improvement but can be aware of light malodor by herself/himself sometimes during daily activity)	2 (3.6)
Poor (limited improvement and both the patient and persons nearby were easily aware of malodor)	0 (0.0)
Reduced hair growth	
No hair	10 (18.2)
Greatly decreased	38 (69.1)
Slightly decreased	7 (12.7)
Unchanged	0 (0.0)
Scar	
Inconspicuous	40 (72.7)
Slightly visible	13 (23.7)
Conspicuous	2 (3.6))
Very marked	0 (0.0)
Complications	
Hematoma of seroma	1 (1.8)
Small area of necrosis	5 (9.1)
Large area of necrosis	1 (0.0)
Scar contracture	0 (0.0)
Local infection	0 (0.0)
Wound disruption	0 (0.0)
Subjective assessment	
Very satisfied, recommend operation	46 (83.6)
Satisfied	8 (14.5)
Not satisfied	1 (1.8)
Very unsatisfied	0 (0.0)
Total	55 (100.0)

*The effect was slightly better than before (Yang H, Zhang MY, Ding SL, Li CY, Tan WQ. Modified tumescent liposuction-curettage through mini incisions for the treatment of secondary axillary bromhidrosis with subcutaneous scarring. *Plast Reconstr Surg.* 2012;130:916e–918e). The mean time for liposuction-curettage of one axilla was significantly reduced (~30 min in modified cannula vs. 40–50 min in previous two-hole cannula).

4. It is recommended that negative pressure be decreased for a four-hole cannula during the last step because most adipose tissue is removed and the deep fascia is exposed.

DOI: 10.1097/PRS.0000000000001235

Xiao-Wei Wang, M.D.
Song-Jia Tang, M.D.
Ying Xia
Chun-Ye Chen, M.D.
Wei-Qiang Tan, M.D.
Department of Plastic Surgery
The First Affiliated Hospital
College of Medicine
Zhejiang University
Hangzhou, Zhejiang Province
People's Republic of China

Correspondence to Dr. Tan
Department of Plastic Surgery
The First Affiliated Hospital
College of Medicine
Zhejiang University
79 Qing-Chun Road
Hangzhou, Zhejiang Province 310003
People's Republic of China
tanweixxxx@163.com

The first two authors contributed equally to this work.

DISCLOSURE

The authors have no conflicts of interest to declare.

ACKNOWLEDGMENTS

This work was supported by grants from the National Natural Science Foundation of China (no. 81372072), Zhejiang Provincial Medical and Healthy Science Foundation of China (no. 2013RCB004), and Zhejiang Provincial Natural Science Foundation of China (no. LY12H15006).

REFERENCES

1. Yang H, Zhang MY, Ding SL, Li CY, Tan WQ. Modified tumescent liposuction-curettage through mini incisions for the treatment of secondary axillary bromhidrosis with subcutaneous scarring. *Plast Reconstr Surg.* 2012;130:916e–918e.
2. Lee D, Cho SH, Kim YC, Park JH, Lee SS, Park SW. Tumescent liposuction with dermal curettage for treatment of axillary osmidrosis and hyperhidrosis. *Dermatol Surg.* 2006;32:505–511.
3. Field LM. Re: Botox for a lifetime or tumescent axillary liposuction and curettage: Once. *Dermatol Surg.* 2003;29:793–794.
4. Bechara FG, Sand M, Sand D, Altmeyer P, Hoffmann K. Suction-curettage as a surgical treatment of focal axillary hyperhidrosis: Recommendation for an aggressive approach. *Plast Reconstr Surg.* 2007;119:1390–1391.
5. Bechara FG, Sand M, Tomi NS, Altmeyer P, Hoffmann K. Repeat liposuction-curettage treatment of axillary hyperhidrosis is safe and effective. *Br J Dermatol.* 2007;157:739–743.

Lymphedema of the Upper Extremity following Supraclavicular Lymph Node Harvest

Sir:

Vascularized lymph node transfer of lymph nodes from donor sites to affected sites can restore lymphatic flow and effectively treat lymphedema. A

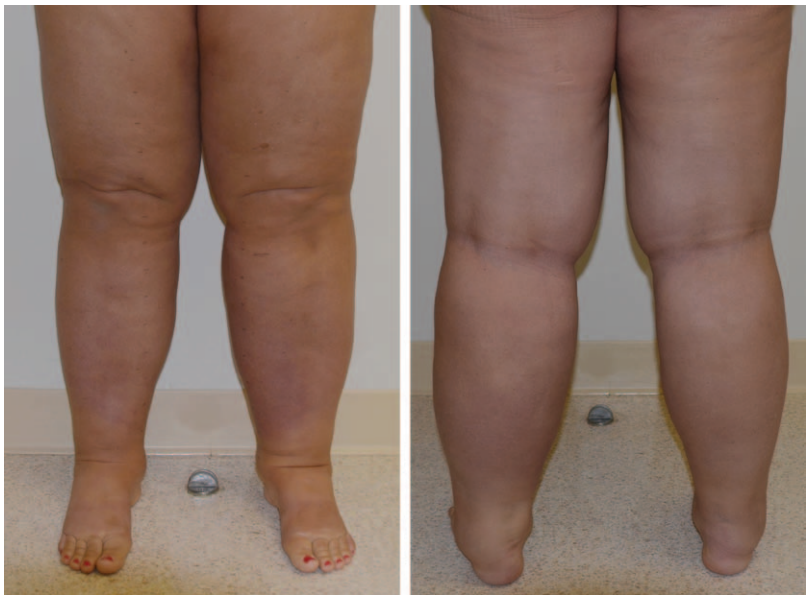

Fig. 1. Patient with bilateral lower extremity lymphedema.

documented risk of vascularized lymph node transfer is the development of new lymphedema at or around the lymph node harvest donor site or limb. Studies have reported rare instances of donor-site lymphedema following lymph node flap harvest from axillary or groin donor sites.[1–3]

The supraclavicular area has been described previously as a donor site without risk of secondary lymphedema in the surrounding tissues, with some surgeons favoring this donor site because of the perceived lack of risk.[4] We describe a patient who presented with lymphedema of the right arm following vascularized lymph node transfer from the right supraclavicular donor area to the left groin. The development of lymphedema in the right upper extremity following a supraclavicular node harvest challenges this previous notion that the supraclavicular area is without risk of donor-site lymphedema. Careful patient selection, surgical expertise, and methods such as reverse lymph node mapping may reduce this risk.[5–8]

A 55-year-old woman presented to our office after she developed lymphedema of the right arm approximately 2 years after she had vascularized lymph node transfer performed by another surgeon. She had initially developed left leg lymphedema after an epidural procedure. In the following year, the patient also developed lymphedema in the right leg (Fig. 1). The vascularized lymph node transfer procedure from the right supraclavicular fossa to the left groin was then performed by the other surgeon to treat the swelling (Fig. 2). The patient's postoperative course was complicated by the accumulation of seroma containing milky fluid at the supraclavicular donor site, which resolved approximately 4 weeks after surgery with conservative treatment. Approximately 6 months after the vascularized lymph node transfer surgery, the patient developed lymphedema in her right arm. A volume excess of 1055 cc was present on follow-up examination (Fig. 3). Lymphoscintigraphic imaging before and after the vascularized lymph node transfer surgery revealed a significant decrease of tracer migration in the right arm and loss of visualization of tracer in the right axillary lymph nodes after the operation, consistent with lymphedema (Fig. 4).

Effective treatments for both congenital and secondary lymphedema have been documented extensively in the medical literature. Multiple studies have documented the effectiveness of conservative lymphedema therapy, vascularized lymph node transfer, lymphaticovenous anastomosis, and suction-assisted protein lipectomy for properly selected patients with lymphedema.[5–14] Vascularized lymph node transfer involves transfer of lymph nodes and the surrounding soft tissue as a microsurgical free flap from a donor site to the affected area. This technique is most effective for the treatment of fluid-predominant lymphedema, and can reduce the need for compression garment use and lymphedema therapy. Furthermore, vascularized lymph node transfer can improve patient quality of life and dramatically reduce the risk of dangerous lymphedema cellulitis in affected individuals.[5–14]

This case challenges the previous notion that the supraclavicular donor site is free from postoperative lymphedema risk. Careful patient selection and anatomical dissection, surgeon experience with the vascularized lymph node transfer procedure, and the use of reverse lymphatic mapping may reduce such donor-site risk.

DOI: 10.1097/PRS.0000000000001253

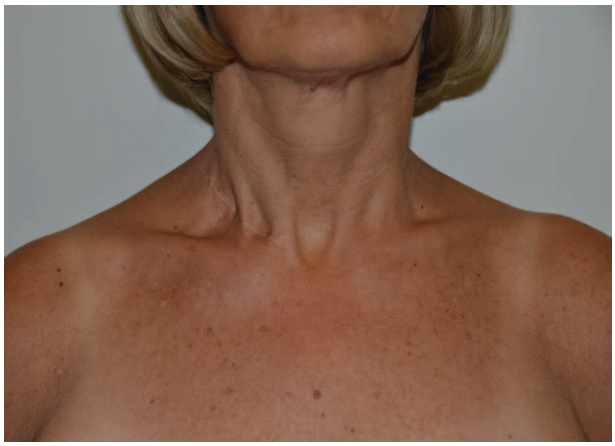

Fig. 2. Right supraclavicular lymph node transfer donor site.

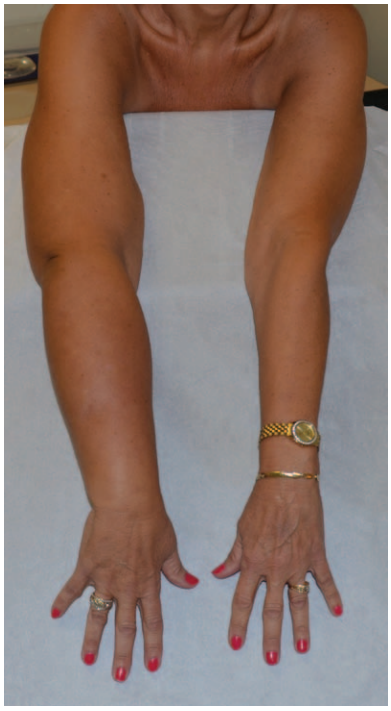

Fig. 3. Right upper extremity lymphedema following vascularized lymph node transfer from the right supraclavicular area.

Ming Lee, A.B.
Emory University School of Medicine

Evan McClure, B.A.
Emory University School of Medicine, and
Goizueta Business School
Emory University

Erik Reinertsen, B.S.
Emory University School of Medicine
Wallace H. Coulter Department of Biomedical Engineering
at Emory University, and
Georgia Institute of Technology
Atlanta, Ga.

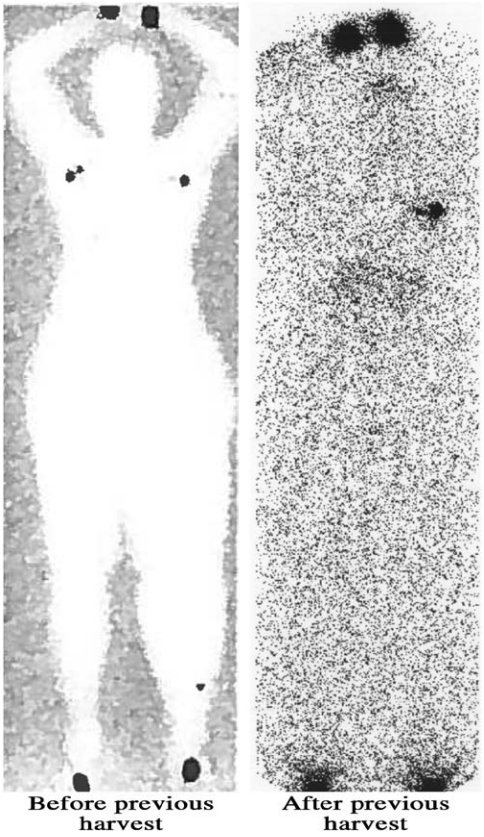

Fig. 4. Lymphoscintigraphic findings before (*left*) and after (*right*) supraclavicular lymph node harvest. Note loss of tracer uptake in the right axilla in the postoperative image.

Jay W. Granzow, M.D., M.P.H.
Division of Plastic Surgery
University of California, Los Angeles
Harbor–UCLA Medical Center and
UCLA David Geffen School of Medicine
Los Angeles, Calif.

Correspondence to Dr. Granzow
Harbor-UCLA Medical Center
Department of Surgery, Box 25
1000 West Carson Street
Torrance, Calif. 90509
drjay@plasticsurgery.la

DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

REFERENCES

1. Viitanen TP, Mäki MT, Seppänen MP, Suominen EA, Saaristo AM. Donor-site lymphatic function after microvascular lymph node transfer. *Plast Reconstr Surg.* 2012;130:1246–1253.
2. Vignes S, Blanchard M, Yannoutsos A, Arrault M. Complications of autologous lymph-node transplantation for limb lymphoedema. *Eur J Vasc Endovasc Surg.* 2013;45:516–520.

3. Pons G, Masia J, Loschi P, Nardulli ML, Duch J. A case of donor-site lymphoedema after lymph node-superficial circumflex iliac artery perforator flap transfer. *J Plast Reconstr Aesthet Surg*. 2014;67:119–123.
4. Althubaiti GA, Crosby MA, Chang DW. Vascularized supraclavicular lymph node transfer for lower extremity lymphedema treatment. *Plast Reconstr Surg*. 2013;131:133e–135e.
5. Granzow JW, Soderberg JM, Kaji AH, Dauphine C. An effective system of surgical treatment of lymphedema. *Ann Surg Oncol*. 2014;21:1189–1194.
6. Granzow JW, Soderberg JM, Kaji AH, Dauphine C. Review of current surgical treatments for lymphedema. *Ann Surg Oncol*. 2014;21:1195–1201.
7. Granzow JW, Soderberg JM, Dauphine C. A novel two-stage surgical approach to treat chronic lymphedema. *Breast J*. 2014;20:420–422.
8. Dayan JH, Dayan E, Smith ML. Reverse lymphatic mapping: A new technique for maximizing safety in vascularized lymph node transfer. *Plast Reconstr Surg*. 2015;135:277–285.
9. Cheng MH, Huang JJ, Huang JJ, et al. A novel approach to the treatment of lower extremity lymphedema by transferring a vascularized submental lymph node flap to the ankle. *Gynecol Oncol*. 2012;126:93–98.
10. Basta MN, Gao LL, Wu LC. Operative treatment of peripheral lymphedema: A systematic meta-analysis of the efficacy and safety of lymphovenous microsurgery and tissue transplantation. *Plast Reconstr Surg*. 2014;133:905–913.
11. Patel KM, Lin CY, Cheng MH. From theory to evidence: Long-term evaluation of the mechanism of action and flap integration of distal vascularized lymph node transfers. *J Reconstr Microsurg*. 2015;31:26–30.
12. Becker C, Assouad J, Riquet M, Hidden G. Postmastectomy lymphedema: Long-term results following microsurgical lymph node transplantation. *Ann Surg*. 2006;243:313–315.
13. Lin CH, Ali R, Chen SC, et al. Vascularized groin lymph node transfer using the wrist as a recipient site for management of postmastectomy upper extremity lymphedema. *Plast Reconstr Surg*. 2009;123:1265–1275.
14. Patel KM, Cheng MH. A prospective evaluation of lymphedema-specific quality of life outcomes following vascularized lymph node transfer. *Plast Reconstr Surg*. 2014;133:1008.

Novel Penile Splint and Its Use in Microsurgical Penile Replantation

Sir:

Traumatic penile amputation is an infrequently encountered injury, the current standard of treatment for which is microsurgical replantation of the amputated part. Currently, there is no standard protocol regarding the postoperative care of penile replants. In this case report, we present the use of a novel penile splint to assist in the postoperative care of a patient who underwent microsurgical penile replantation. The authors believe that the use of this novel splint can effectively support the replanted part and can prevent wound healing complications.

A 30-year-old male patient was brought into the emergency department with multiple stab wounds to the chest and abdomen and a traumatic amputation of the penis. The amputated phallus was placed in saline-soaked gauze, placed in a sterile plastic bag, and then kept in an ice bath. After all structures were identified, the urologic surgeons performed an end-to-end urethroplasty and a corporoplasty. The plastic surgeons repaired the left corpus cavernosal artery, and the tunica albuginea was then closed. Subsequently, the deep dorsal vein and a deep dorsal artery were repaired. Another superficial vein was anastomosed. The remaining soft tissues were closed.

On postoperative day 9, a small area of wound separation was noted on both the ventral and dorsal surfaces of the penis at the area of the suture line. Dressing changes were instituted, and the patient was restricted to bedrest. Concerns were raised among the various treatment teams that prolonged bedrest in a patient with multiple injuries could pose serious health risks. For this reason, New England Orthotic and Prosthetic Systems, in conjunction with an adult novelty store, fabricated a specialized penile splint (Figs. 1 and 2) that would provide support to the replanted part while the patient was ambulating. After local wound care, the patient went on to heal without further event. In total, the patient wore the splint for 3 months.

As microvascular techniques have improved, surgeons performing replantation have become more focused on reestablishing the vascular integrity of the penis. Cadaveric studies have demonstrated adequate collateral blood flow between the deep and superficial systems,[1] which suggests that performing anastomoses on one set of arteries is adequate to maintain the survival of the replanted part.

To date, there are no established protocols delineating how to support the replanted part or when to liberalize activity restrictions. The concern with allowing the patient to ambulate without support is clear.

Our patient had suffered multiple injuries and would have been at risk of postoperative complications if kept in a prolonged period of bedrest.[2–4] The use of this penile splint allowed the surgeons to liberalize the patient's activity without the fear of further wound dehiscence.

The treatment of penile amputation has seen considerable improvement in the past quarter century. Further investigation is necessary to optimize the care of these individuals. The authors hope that the description presented will allow for improved postoperative care of these patients.

DOI: 10.1097/PRS.0000000000001234

Ajul Shah, M.D.
Raj Sawh, M.D.
Alicia Wills, P.A.-C.
Charles Walker, M.D.
Alexander Au, M.D.
Section of Plastic and Reconstructive Surgery
Yale University School of Medicine
New Haven, Conn.