OPEN

PRS GLOBAL OPEN VIEWPOINT

Simple Method for Deep Insertion of Drainage Tube through a Small Skin Incision

Shuhei Yoshida, MD, PhD*; Isao Koshima, MD, PhD*; Hirofumi Imai, MD*; Toshio Uchiki, MD†; Ayano Sasaki, MD†; Yumio Fujioka, MD†; Shogo Nagamatsu, MD, PhD†; Kazunori Yokota, MD, PhD†

Sir,

Placement of a drainage system is carried out to prevent postoperative infection, hematoma, or seroma. It is easy to insert a drainage tube when the skin incision is large and the surgical field is wide. However, insertion is difficult in the deepest area of the wound when the surgery is performed via a small incision (eg, after liposuction).[1]

To address this, we developed a simple method for inserting a drainage tube into the deepest area of a liposuction wound using equipment that is readily available in the operating room. This method involves the use of a liposuction tube, round silicone drain, and endotracheal tube stylet.

The end of the silicone drain is inserted approximately 1 cm retrograde into the hole at the tip of the liposuction tube. The end of the silicone drain does not come out easily when it is folded back and pulled lightly. The tip of the liposuction tube with the drain is inserted into the wound via the small skin incision while grasping the other side of the liposuction tube and drain so that slight tension is maintained on the silicone drain tube. The stylet is then inserted into the suction tube lumen from the holding portion after the tip of the liposuction tube with the silicone drain tube reaches the target site (Fig. 1A). The silicone drain tube detaches from the liposuction tube when the inserted stylet slides and pushes the tip of silicone drain tube in the liposuction tube lumen while maintaining slight tension on the silicone drain tube (Fig. 1B). (**See Video 1 [online],** which displays that the silicone drain tube is detached from the liposuction tube lumen by inserting the stylet and pushing the tip of the silicone drain tube.) The liposuction tube is withdrawn, leaving the silicone drain tube inside the wound.

The silicone drain tube may be pulled back 2–3 cm when the drain detaches if excessive tension is applied to the silicone drain tube. A slight pulling back of the silicone drain may also occur when the suction tube is pulled out; so it is better to insert the tip of liposuction tube and silicone drain tube a few centimeters deeper than the targeted site. It is also recommended to remove the liposuction tube after pushing it a few centimeters deeper after the drain tube detaches from the liposuction tube. (**See Video 2 [online],** which displays that a slight pulling back of the silicone drain may occur when the suction tube is pulled out; so it is better to insert the tip of liposuction tube and silicone drain tube a few centimeters deeper than the targeted site. It is also recommended to remove the liposuction tube after pushing it a few centimeters deeper after the drain tube detaches from the liposuction tube.)

The silicone drain tube may be pinched between the liposuction tube and the stylet if the stylet at the end of the suction tube is pushed strongly or there is no tension to the drain tube. It is recommended that the stylet be pushed slowly for the drain to detach smoothly.

Drains with different diameters can be used by changing the size of the suction tube and the size of the stylet. Penrose drains can be inserted in the same manner. The advantages of this method are that it can be readily performed with existing medical instruments and at low cost. This method is effective in large-volume liposuction,[2] volume reduction with liposuction for lymphedema,[3] liposuction for gynecomastia,[4] and treatment of fistula.[5]

Shuhei Yoshida, MD, PhD
The International Center for Lymphedema
Hiroshima University Hospital
1-2-3, Kasumi
Minami-ku
Hiroshima 734-8551, Japan
E-mail: syuheiyoshida44@gmail.com

DISCLOSURE

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

REFERENCES

1. Gaba S, Ajai KS, Sharma RK, et al. A novel method to insert drain atraumatically after liposuction in gynaecomastia. *Indian J Plast Surg.* 2018;51:102–103.
2. Sailon AM, Wasserburg JR, Kling RR, et al. Influence of large-volume liposuction on metabolic and cardiovascular health: a systematic review. *Ann Plast Surg.* 2017;79:623–630.
3. Brorson H. Liposuction in lymphedema treatment. *J Reconstr Microsurg.* 2016;32:56–65.
4. Fagerlund A, Lewin R, Rufolo G, et al. Gynecomastia: a systematic review. *J Plast Surg Hand Surg.* 2015;49:311–318.
5. Umezawa H, Matsutani T, Yokoshima K, et al. A novel tube-drainage technique of negative pressure wound therapy for fistulae after reconstructive surgery. *Plast Reconstr Surg Glob Open.* 2018;6:e1885.

Related Digital Media are available in the full-text version of the article on www.PRSGlobalOpen.com.

*From the *International Center for Lymphedema, Hiroshima University Hospital, Hiroshima, Japan; and †Plastic and Reconstructive Surgery, Hiroshima University, Hiroshima, Japan.*

Received for publication May 1, 2020; accepted May 7, 2020.

Plast Reconstr Surg Glob Open 2020;8:e2951; doi: 10.1097/GOX.0000000000002951; Published online 8 July 2020.

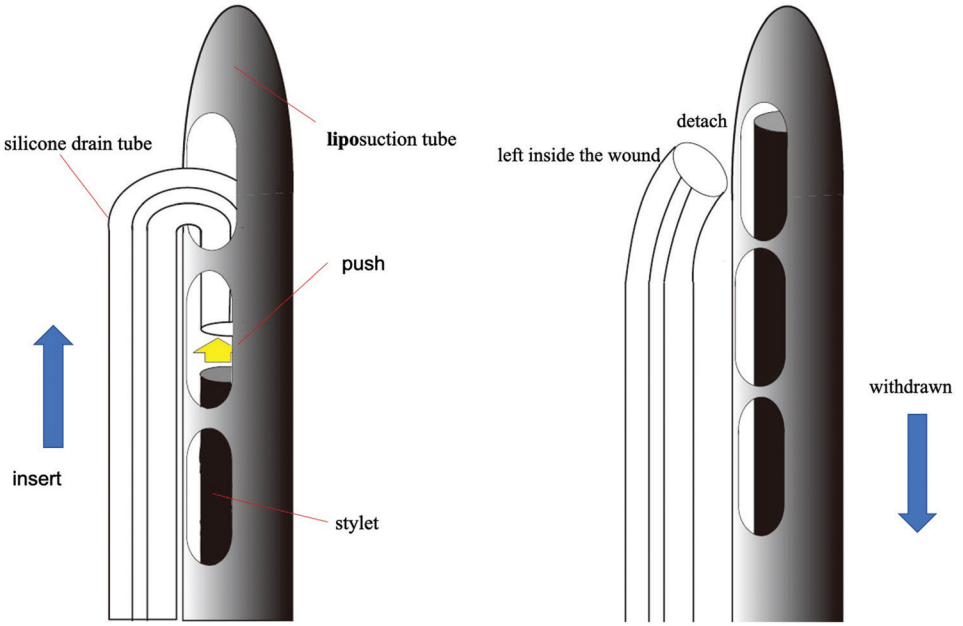

Fig. 1. Left, The end of the drain is inserted approximately 1 cm retrograde into the hole at the tip of the liposuction tube. The tip of the liposuction tube with the silicone drain is inserted into the wound via the small skin incision. After that, the stylet is inserted into the liposuction tube lumen. Right, The silicone drain tube detached when the inserted stylet pushes the tip of the silicone drain tube in the liposuction tube lumen.