different outcomes: case reports. Arq Bras Oftalmol 2011;74:444-6.
2. Groenewold MD, Gribnau AJ, Ubbink DT. Topical haemostatic agents for skin wounds: a systematic review. BMC Surg 2011;11:15.
3. McKee DE, Lalonde DH, Thoma A, et al. Optimal time delay between epinephrine injection and incision to minimize bleeding. Plast Reconstr Surg 2013;131:811-4.

Treatment of refractory groin lymphocele by surrounding supermicrosurgical lymphaticovenous anastomosis

Benoit Ayestaray, Maïté Esnault, Marie Godard, Sofian Picquot

Department of Plastic and Reconstructive Surgery, Sud Francilien Hospital, University Paris Sud XI, Evry, France

Correspondence: Benoit Ayestaray
Department of Plastic and Reconstructive Surgery, Sud Francilien Hospital, University Paris Sud XI, 116, Bd Jean Jaurès, 91000 Evry, France
Tel: +33-161697564, Fax: +33-161698460
E-mail: bayestaray@yahoo.fr

Received: 1 May 2017 • Revised: 17 Sep 2017 • Accepted: 18 Oct 2017
pISSN: 2234-6163 • eISSN: 2234-6171
https://doi.org/10.5999/aps.2017.00829
Arch Plast Surg 2018;45:290-291

Images

Lymphocele is a localized lymph collection that is usually secondary to lymphatic network damage. Large lymphoceles may lead to chronic pain and infection. Herein, we report a case of refractory groin lymphocele treated by supermicrosurgical lymphaticovenous anastomosis.

A 43-year-old man had been treated 2 years previously for an inguinal hernia. A few days after surgery, a subcutaneous lymphocele occurred in the groin area (Fig. 1A). The patient presented to our department after the failure of conservative treatment.

Lymphaticovenous anastomosis under local anesthesia was chosen as a minimally invasive procedure. Magnetic resonance imaging (MRI) was performed preoperatively to delineate the lesion and identify adjacent venules. Indocyanine green fluorescence lymphangiography with a PhotoDynamic Eye (Hamamatsu Photonics Co., Hamamatsu, Japan) was used to visualize the functional lymphatic vessels surrounding the lymphocele area intraoperatively (Fig. 2). Two end-to-end lymphaticovenous anastomoses were

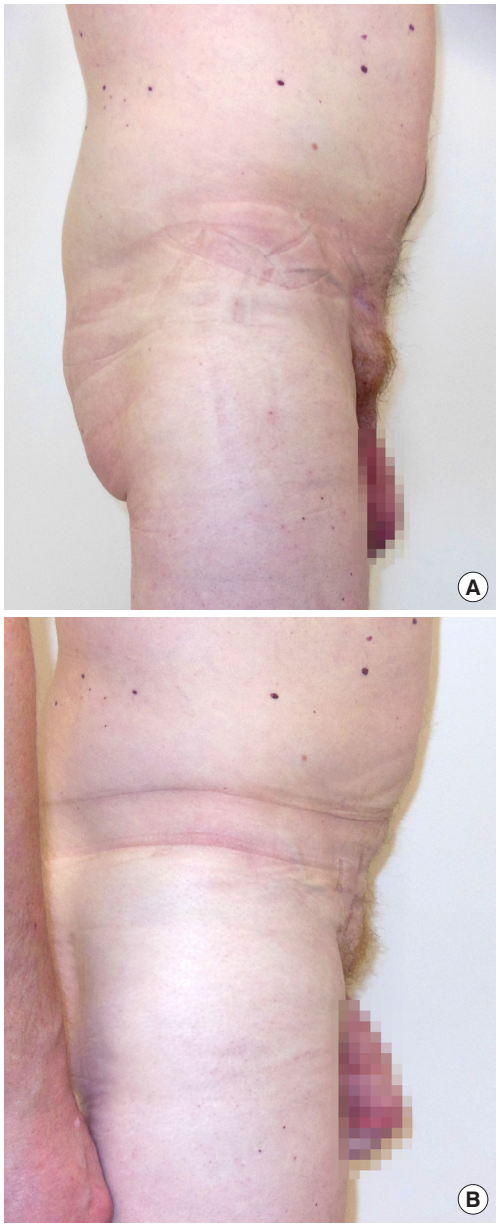

Fig. 1.
Comparison of the patient's clinical appearance before and after surgery. (A) Preoperative view: a 43-year-old man presented with a refractory groin lymphedema secondary to inguinal hernia surgery. (B) Postoperative view: complete lymphocele volume reduction was visible 3 months after surrounding lymphaticovenous anastomosis.

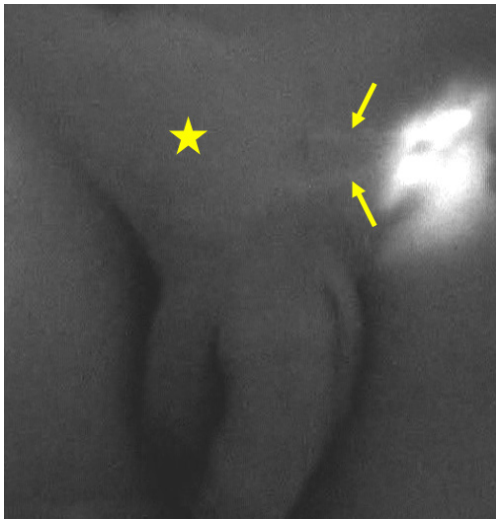

Fig. 2.
Intraoperative view of the indocyanine green fluorescence lymphangiography before lymphaticovenous anastomosis. A subdermal injection of 0.1 mL of indocyanine green was made 5 cm medially from the lymphocele (yellow star). Two functional lymphatic vessels (yellow arrows) were visualized through the skin. They ran towards the collection of fluid in the groin (yellow star), which was slightly fluorescent.

performed under high magnification (×27) with 12-0 nylon sutures (Fig. 3). Microvascular anastomosis patency was checked intraoperatively by fluorescence lymphangiography, for which 0.1 mL of indocyanine green was injected inside the lymphocele. A skin massage was performed to diffuse the tracer into the surrounding lymphatic vessels. Positive patency was visualized in each lymphaticovenous anastomosis (Fig. 3).

The patient's postoperative course was uneventful. The subcutaneous lymphocele volume started to reduce 5 days after surgery. Postoperative MRI confirmed the progressive absorption of the lymph collection. Complete resorption was achieved 3 months postoperatively (Fig. 1B).

Lymphaticovenous anastomoses have been used in lymphocele treatment in a few cases. The technique was successful for pelvic lymphocele [1] and for a localized subcutaneous leg lymphocele after sentinel node biopsy [2]. Lymphatic vessel bypass to a collateral branch of the great saphenous vein was described for postoperative groin lymphocele [3].

To our knowledge, this is the first reported case of refractory groin lymphocele treated by supermicrosurgical lymphaticovenous anastomosis. In contrast to the technique reported by Boccardo et al. [2] and Gentileschi et al. [3], no lymphocele capsule excision was required. The advantage of surrounding lymphaticovenous anastomosis based on small incisions was to minimize the length of surgical scars. Thus, surrounding supermicrosurgical lymphaticovenous anastomosis may be a new option for the management of refractory groin lymphocele.

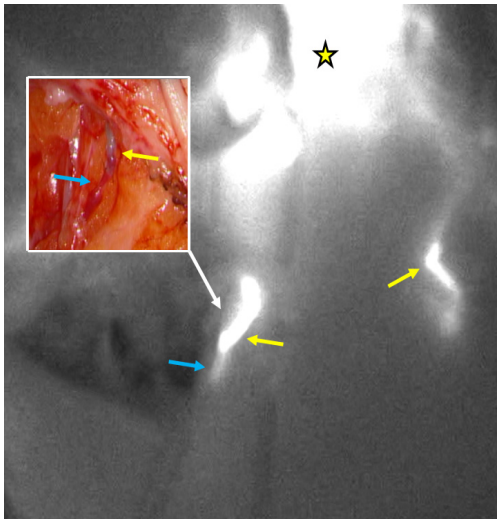

Fig. 3.
Intraoperative view of lymphaticovenous anastomosis patency by indocyanine green fluorescence lymphangiography. An injection of 0.1 mL of indocyanine green was made inside the lymphocele (yellow star). A skin massage was performed to diffuse the tracer into the surrounding lymphatic vessels (yellow arrows). The tracer diffused into the venule (blue arrows).

Notes

Conflict of interest
No potential conflict of interest relevant to this article was reported.

Patient consent
The patient provided written informed consent for the publication and the use of his images.

References

1. Todokoro T, Furniss D, Oda K, et al. Effective treatment of pelvic lymphocele by lymphaticovenular anastomosis. Gynecol Oncol 2013;128:209-14.
2. Boccardo F, Dessalvi S, Campisi C, et al. Microsurgery for groin lymphocele and lymphedema after oncologic surgery. Microsurgery 2014;34:10-3.
3. Gentileschi S, Servillo M, Salgarello M. Supramicrosurgical lymphatic-venous anastomosis for postsurgical subcutaneous lymphocele treatment. Microsurgery 2015;35:565-8.