

LETTER TO THE EDITOR

Percutaneous embolization of the thoracic duct as a therapeutic alternative to chylous fistula after thyroid surgery[☆]



Embolización percutánea del conducto torácico como alternativa terapéutica de la fístula quilosa tras cirugía tiroidea

Dear Sir,

We have read with special interest the article entitled "Chylous fistula as a complication of thyroid surgery in malignant disease" by Ríos et al.,¹ published in your journal earlier this year, which reports a series of nine patients comparing conservative treatment and surgery for chylous fistula after thyroid surgery. It also includes a magistral review of the management of chylous fistulas of all types, and explains the need for drainage and the value of somatostatin analogues, already reported in previous studies.²

Due to our recent experience with the case discussed below, we would like to suggest, as an additional treatment option for this complication, the performance of lymphography with percutaneous embolization of the thoracic duct (PETD). This procedure, which is poorly invasive, safe and less harmful for the patient, may be used in high output (greater than 500 mL/day) fistulas³ that show no improvement with conservative treatment as an alternative to surgery,⁴ and even as an early first treatment option (5–7 days) to prevent malnutrition.⁵ The procedure consists of channeling vessels (usually foot vessels) or lymph nodes (most often inguinal nodes, under ultrasound guidance) and instilling 10–20 mL of lipiodol as contrast medium for lymphography. Subsequently, under fluoroscopic guidance, the cisterna chyli is punctured through a percutaneous transabdominal approach, or the thoracic duct is directly punctured at the neck. After channeling, a microguide and microcatheter are inserted and advanced through the thoracic duct to the area of extravasation. Once in the region

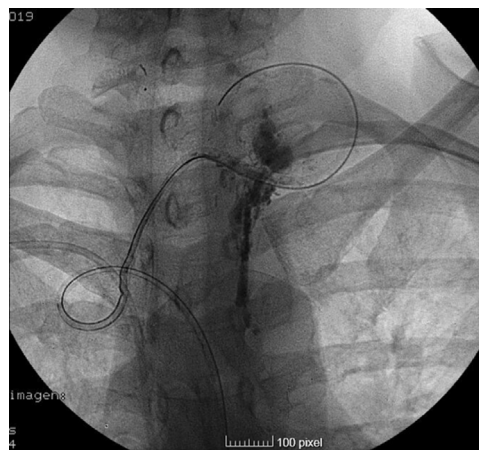


Figure 1 Catheterization of the thoracic duct after transnodal lymphography, showing contrast leakage in the middle third of the clavicle.

of the fistula, acrylic glue or microcoils are released to embolize the thoracic duct proximally and distally to the site of leakage.^{5,6}

In our case, a 37-year-old woman underwent thyroidectomy for papillary thyroid carcinoma, completed two years later with left paratracheal cervical emptying due to nodal recurrence (48 nodes were removed, of which 14 were affected). Forty-eight hours after surgery, leakage of chylous material through the drains was noted, with a daily output of 1000–1500 mL, which did not respond to conservative measures (parenteral nutrition and somatostatin analogues). Finally, the reference interventional radiology department decided that PETD was the best option, and the procedure was performed 15 days after surgery. The procedure consisted of transnodal lymphography, that confirmed contrast leakage at supraclavicular level, and after direct puncture of the thoracic duct next to the leakage and microcatheterization, embolization was performed with Glubran 2®-Lipiodol® from Cardiolink Group (Fig. 1).

No specific care was required after the procedure, and the patient had an uneventful course. The chylous fistula completely closed, and the patient could be discharged at 48 h with an output of approximately 500 mL of a serohe-matic fluid, which gradually decreased until drainage was removed at the outpatient clinic five days after PETD.

This technique, traditionally used for thoracic duct lesions at thoracoabdominal level,⁷ has previously been

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Table 1 Summary of reported cases of thoracic duct embolization after neck surgery.

	Patient	Initial surgery	Time to embolization	Embolization procedure	Hospital stay
Van Goor et al (2006) ⁸	Female 55 years	Thyroidectomy with left lymphadenectomy, levels II–V	21 days Relapse at 5th day, repeated on day 31	Inguinal transnodal lymphography with lipiodol Catheterization of cisterna chyli with microcoil embolization	42 days
Van Goor et al (2007) ⁸	Female 63 years	Thyroidectomy with bilateral lymphadenectomy, levels II–V	14 days	Inguinal transnodal lymphography with lipiodol Direct puncture of thoracic duct with microcoil embolization	29 days
Patel et al. (2008) ⁹	Female 61 years	Total laryngectomy with selective bilateral lymphadenectomy for subglottic squamous cell carcinoma	–	Inguinal transnodal lymphography with lipiodol Direct puncture of thoracic duct with microcoil embolization	–
Chen et al (2015) ¹⁰	Male 51 years	Left radical lymphadenectomy after squamous cell carcinoma of the tongue	24 days	Inguinal transnodal lymphography with lipiodol Catheterization of cisterna chyli with microcoil embolization	31 days

tested in cervical chylous fistulas after neck surgery with good results. We only found three articles reporting cases of chylous fistula specifically caused by neck surgery where PETD was performed (Table 1). Good results were reported in all of them, with total resolution of the fistula and no associated morbidity and mortality, except in the case of a patient in whom the procedure had to be repeated on the fifth day due to persistence of the fistula, which completely closed after the second PETD.⁸

To sum up, it may be concluded that thoracic duct embolization is a minimally invasive technique with low morbidity, effective, and that can be performed by an interventional vascular radiology department. It can therefore be used as a therapeutic alternative or even as the treatment of choice in high-output chylous fistulas.

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Conflicts of interest

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