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Scientific letters

Percutaneous Access to Cervical Fistulas of the Thoracic Duct: A New Approach☆

Acceso percutáneo de las fístulas cervicales del conducto torácico: un nuevo abordaje

Traumatic thoracic duct (TD) injury is an uncommon complication of cervical lymph node dissection for the treatment of thyroid cancer, and its incidence is about 2%. Although the most serious complications appear when this lesion occurs in the thorax, typically during esophagectomy, cervical lesions also have associated postoperative morbidity, including nutritional complications (malnutrition, hypoproteinemia, hyponatremia and dehydration), immunosuppression and extension to the thorax in the form of chylothorax.[1]

The TD is the largest lymphatic vessel of the body; it collects lymph from almost all the subdiaphragmatic areas, the posterolateral wall of the thorax and several terminal collectors at the base of the neck. It usually originates at the T12-L1 vertebrae, where a dilated sac known as the cisterna chyli can appear. After ascending through the mediastinum, it reaches the base of the neck, where it finally curves before emptying into the internal jugular vein (46%), the junction of the subclavian and jugular veins (32%) or the subclavian vein (18%).[2]

We present the case of a 47-year-old patient diagnosed with papillary thyroid carcinoma and left level III lymph node involvement. Total thyroidectomy was performed with lymph node dissection of the bilateral central compartment and modified left radical lymphadenectomy. On the first day post-op, the patient presented a high volume of discharge through the surgical drain tube (550 ml) that was chylous in appearance. As a TD fistula was suspected, triglyceride levels were determined in the drained fluid, which was 147 mg/dL and confirmed the diagnosis.[3]

Initial treatment was conservative, with low-fat enteral nutrition, medium-chain triglyceride supplements, octreotide (0.1 mg/8 h, subcutaneous) and antibiotics. In spite of these measures, the discharge through the drain persisted at a volume of about 300 ml/day. Therefore, we decided to perform thoracic duct embolization to definitively treat the fistula. The first attempt used a pedal lymphography approach to try to identify the cisterna chyli for percutaneous catheterization. During the procedure, we did not identify any dilatations that were suitable for percutaneous access, and the size of the TD was uniform. It was then decided to use a cervical percutaneous approach. Iodine contrast was injected into the surgical drain, which filled the cavity created by the lymphocele and allowed us to identify the site of the TD leak. Using percutaneous puncture, a macrocatheter (Progreat®, 2.7/2.9 France, Terumo®) was introduced at the cervical level, directed by a 0.021″ guide through the TD orifice. In this manner, lymphography was done (Fig. 1) along with embolization using microcoils (Axium® 0.018″, eV3) and N-butyl-2-cyanoacrylate (Gluebrand 2®-Gem) (Fig. 2). The following day, no discharge was seen through the drain tube. The drain was removed and the patient was discharged from the hospital after having started a normal diet.

Although there is no consensus about the standard treatment for this type of lesions, most authors recommend an initial conservative treatment, which usually consists of a low-fat diet with medium-chain triglyceride supplements and somatostatin analogs.[4] Nonetheless, there are cases in which the high discharge volume (>1000 ml/day) or the persistence of the fistula for more than 5–7 days indicate the need for more aggressive treatment in order to prevent the appearance of complications.[5] In these cases, the objective is closure of the TD. There are several options, such as TD embolization, the use of sclerosing substances or biological glues, or the surgical closure of the TD (cervical as well as thoracic), where the use of video-assisted thoracoscopy techniques is especially useful.

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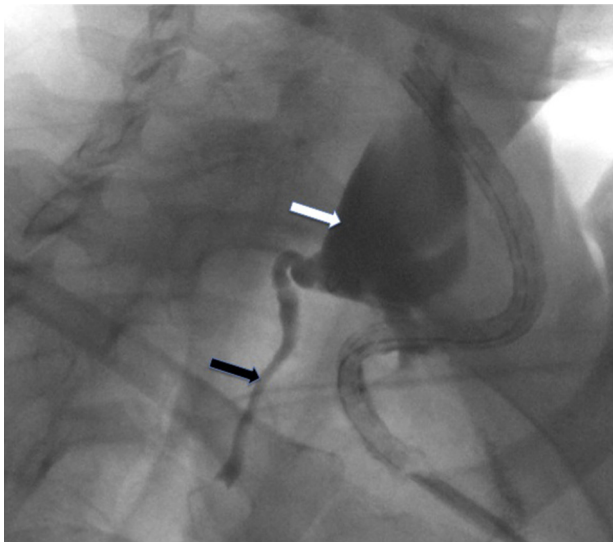

Fig. 1 – Lymphography of the thoracic duct (black arrow) after introducing contrast into the surgical drain and filling the cervical lymphocele (white arrow).

Embolization of the TD was originally described by Cope et al.,[6] who used a transabdominal percutaneous approach to access the cisterna chyli after its previous identification with iodine-contrast pedal lymphography. Although this is currently the most widely used technique, modifications have arisen to access the TD. One approach that stands out is the intranodal lymphangiography technique recently described by Rajebi et al.,[7] which demonstrates practical importance. In expert groups,[8] TD catheterization is achieved in 67% of patients, in whom the embolization success rate is close to 90%. Long-term complications after this technique appear in 14.3% of patients, the most frequent of which are chronic diarrhea and edema of the lower extremities.[9]

In our case, the transcervical retrograde approach of the TD enabled us to locate the lesion and treat it satisfactorily. To our knowledge, there are no previously published reports of this approach in the literature, and we therefore contribute a new technique for treating this type of situations.

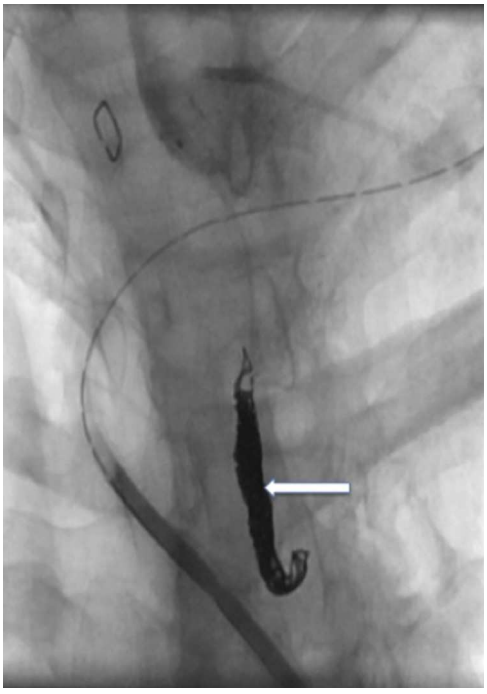

Fig. 2 – Embolization of the thoracic duct with microcoils (white arrow) using a percutaneous transcervical access.

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Conflict of Interests

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Endoscopic Treatment With Biologic Glue of Chronic Presacral Sinus After Low Anterior Resection☆,☆☆

Tratamiento endoscópico con pegamento tisular biológico del seno presacro crónico tras resección anterior baja

Anastomotic dehiscence in rectal cancer is one of the most feared complications. In the long term, a presacral sinus can form that is difficult to manage. The advent of biological tissue adhesives for the treatment of complex fistulas can be an effective alternative for this type of complication. We present a case of anastomotic dehiscence after low anterior resection and the later formation of a chronic presacral sinus, which was resolved with the endoscopic application of a biological tissue adhesive.

The patient is a 67-year-old woman with no prior medical history of interest. After finalizing treatment with neoadjuvant chemo-radiotherapy, she was treated surgically for a rectal adenocarcinoma 7 cm from the anal margin by a laparoscopic low anterior resection with mechanical end-to-end anastomosis without protective ileostomy. The patient was discharged on the 4th day post-op. Three days later, she came to the emergency room with fever and abdominal pain. Abdominal CT scan showed dehiscence of the posterior side of the anastomosis. At reoperation abdominal cavity lavage with a protective ileostomy was performed.

During follow-up, colonoscopy and barium enema (Fig. 1) detected the formation of a presacral sinus on the posterior side of the anastomosis. The sinus was 0.6 cm wide and extended to 4 cm from the anastomosis. One year after surgery and in spite of conservative measures, the presacral sinus remained, which impeded the closure of the ileostomy. Given this situation, we used colonoscopy to carry out curettage of the presacral sinus in conjunction with the application of a cyanoacrylate biological tissue adhesive (Glubran 2®). Four weeks later, barium enema and follow-up colonoscopy confirmed the closure of the defect (Fig. 2). One month after this resolution, the ileostomy was closed without incident. The patient is currently asymptomatic, with proper intestinal function and no recurrence of the disease.

Anastomotic dehiscence after resection of the rectum is a complication with an important morbidity and mortality. Its incidence varies between 5% and 30%.[1] One treatment strategy is the defunctionalization of the anastomosis with an ileostomy, which, although it does not avoid leaks, prevents serious septic complications. The use of protective ileostomy after low anterior resection, even after having received neoadjuvant chemoradiotherapy, depends on the experience of the surgical team and the final result of the anastomosis.

With this management, most leaks resolve spontaneously, although in 1%–5% of cases they may lead to the appearance of a presacral sinus.[2] Symptomatic patients present inflammation or sepsis in the pelvic region and are usually studied with barium enemas and repeated colonoscopies to confirm resolution. There are risk factors, such as preoperative radiotherapy, which make resolution difficult. Complications may develop, including the formation of fistulas, periurethral fibrosis, infection of adjacent tissues and even malignant degeneration.

For the treatment of this condition, Whitlow et al.[3] described unroofing of the anastomosis by means of the division of the wall between the presacral sinus and the lumen of the adjacent bowel. In another series,[4] however, intersphincteric resection of the rectal stump together with debridement of the sinus and omentoplasty or muscular flap is presented as the technique with the best results for healing. The Endo-SPONGE® system introduced by Weidenhagen et al.,[5] based on vacuum suction through a sponge that is inserted in the presacral space, showed a high rate of success, although a later study performed to evaluate these long-term results observed up to 25% of recurring abscesses.[6] Another study compared EndoVAC® with rectal lavage and drainage,

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