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Negative Pressure Therapy for the Treatment of Inguinal Lymphatic Fistula

Terapia con presión negativa para el tratamiento de fístula linfática inguinal

Lymphatic complications after surgery in the inguinal region are attributed to the injury of small lymphatic vessels. Despite efforts to prevent damage, the incidence of lymphorrhea currently reported after these procedures is around 2%.¹ Several therapeutic options have been described with varying degrees of success, and the experience of vacuum therapy in this field is limited.

We present the case of a 75-year-old male with type II diabetes, dyslipidemia and benign prostatic hypertrophy who came to our consultation due to an increased abdominal perimeter and poly-lymphadenopathy syndrome. Under local anesthesia, we resected a right inguinal lymph node measuring 4 cm in diameter. The pathology study confirmed the diagnosis of diffuse large B-cell lymphoma that was rich in T cells, and chemotherapy was initiated.

Seven days after the intervention, we observed an elastic tumor formation in the surgical wound that was non-pulsatile, showed no signs of inflammation, was painful and produced a mild serous exudate. It was drained and gauze was placed in the wound with an adhesive collection bag. Ten days later, there was continuous discharge of about 300 ml per day of clear liquid, which made us suspect the presence of a lymphatic fistula. Initially, conservative treatment was started with a compression bandage and rest. However, given the persistently high discharge volume 40 days after surgery, we decided to re-operate. During this operation, we found no evidence of any leaks or the supposedly injured lymphatic

duct, and closure of the wound was performed with transfixion sutures.

Forty-eight hours after reoperation, the wound once again appeared tense with a clear exudate. We therefore decided to re-open it and implement a negative-pressure wound therapy system made with gauze, a 16 French suction catheter and adhesive sterile dressing, as shown in Fig. 1. Continuous suction at -10 mmHg was applied. After 6 days of treatment with a gradual decrease in discharge until cessation, the vacuum system was withdrawn and the wound was almost entirely closed, with good granulation tissue and no exudate



Fig. 1 – Vacuum system applied to the inguinal wound.

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Fig. 2 – State of the wound after 7 days of VAC therapy.



Fig. 3 – Definitive result.

(Fig. 2). At the one-month follow-up visit, the wound was completely closed and presented no complications (Fig. 3).

Several therapeutic options have been described for the treatment of lymphatic fistula and lymphocele after inguinal surgery, including simple dressing changes,² elevation of the extremities,³ compression bandages, drainage, local radiation,³ surgical ligation of the lymphatic duct causing the leak,⁴ and, in the case of infected grafts, their removal and the use of muscle flaps.⁵ Generally, conservative techniques are inefficient for high-volume leaks because they lengthen hospital stay, increase the risk of infection and are more likely to recur. Some authors support early surgical exploration, identifying the leak and ligating the lymphatic duct, with recurrence rates between 0% and 10%.⁴ In the literature, studies that compared conservative treatment with surgical exploration reported that the hospital stay doubles with the conservative option and that recurrences reach up to 27% of cases with surgical exploration and up to 100% with conservative management.⁴

In 1993, Fleischmann described the use of controlled sub-atmospheric pressure in the treatment of infected wounds and later developed therapy with negative pressure.⁶

For the treatment of lymphocutaneous fistulas, suction therapy has been documented in small series^{7,8} based on the stimulation of granulation tissue growth around the lymphatic duct, causing it to be sealed. This is an effective, less invasive alternative to surgical exploration and ligation of the injured lymphatic duct.

After comparing vacuum-assisted closure (VAC) in deep wounds after inguinal lymphadenectomy with conventional care of these wounds, Tauber et al. stated that VAC was associated with fewer complications, such as the formation of lymphocele (20% vs 62%), persistent lymphorrhea (7% vs 45%) or limb lymphedema (0% vs 46%) ($p = .032$). Reoperations were necessary in 23% of the cases treated conventionally but only in 7% of those treated with VAC ($p = .631$).⁹

Hamed et al. commented that the average time transpired between the diagnosis of lymphatic complications and the application of VAC was 12 days. Mean hospital stay was 4 days for the treatment of lymphatic complications, while the patients were hospitalized with the VAC system for an average of one day. The total duration of treatment with VAC is an average of 18 ± 5 days, including both days of hospital and home therapy. The success rate with VAC therapy is 100% and no clinical recurrences have been detected after a mean follow-up of 17 ± 12 months.¹⁰

In short, the use of vacuum therapy in the treatment of lymphatic fistulas in the inguinal region is a less aggressive treatment that is effective, fast and accessible.

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Treatment of Symptomatic Focal Nodular Hyperplasia by Arterial Embolization

Embolización arterial como tratamiento de la hiperplasia nodular focal sintomática

Focal nodular hyperplasia (FNH) is the second most common benign liver lesion after hemangioma. It represents 8% of all benign liver lesions and is more common in women between the ages of 30 and 50. Its diagnosis is usually incidental during testing for other pathologies.¹

Conservative treatment has been well established in the cases of asymptomatic lesions due to their low risk of hemorrhage or malignant degeneration.

Lesions larger than 4 cm may cause abdominal pain by compressing neighboring organs, hemorrhage or distension of Glisson's capsule. Surgery could therefore be indicated,² but the surgical risk may be greater than any potential benefits. Transarterial embolization (TAE) of these lesions can be considered a less invasive, less risky alternative to surgical treatment.³

We present two cases where TAE has been effective in the treatment of abdominal pain caused by hepatic FNH.

Case 1

The patient was a 31-year-old woman who had been taking oral contraception for the previous 10 years and presented with multiple episodes of abdominal pain that limited her daily activities. A radiology study discovered a space-occupying lesion (SOL) in segment VIII measuring 4.8 cm×4.1 cm (Fig. 1A) compatible with FNH. Work-up and tumor marker levels were normal.

After failed pain management treatment and psychiatric pathologies had been ruled out, the patient was re-evaluated. We decided to perform TAE (Fig. 1B), which provided optimal results. Three months later, the patient continued to be asymptomatic and CT reported a partially necrotized SOL measuring 3 cm (Fig. 2).

Case 2

The patient was a 35-year-old woman who had taken oral contraception for 5 years. She complained of abdominal pain that had been developing over several months and caused repeated visits to the emergency room. Radiological tests showed a SOL in segment VI measuring 5.8 cm×3.6 cm that was compatible with FNH.

During follow-up, progressive growth of the lesion was observed, which grew to 6.8 cm×6.8 cm, with persistent pain despite treatment with analgesia.

TAE has been able to completely control the pain to date, in spite of the maintained lesion size in successive follow-up control tests.

The origin of FNH can be a hyperplastic response of the hepatocytes to arterial injury or hyperperfusion or a pre-existing vascular malformation.¹

Pathologically, the lesions are usually solitary, with a size between 3 and 5 cm. The macroscopic appearance is that of a firm tumor formation, with a color similar to the surrounding

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