



SHORT REPORT

Treatment of a Groin Lymphatic Fistula with Negative Pressure Wound Therapy

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Submitted 21 February 2008; accepted 2 April 2008

Available online 3 June 2008

KEYWORDS

Lymphatic diseases;
Groin;
Negative-pressure
wound therapy

Abstract *Introduction:* Groin lymphatic fistulas are a troublesome finding after limb revascularization surgery. Its management represents a difficult task for the clinician.

Report: We report our experience in the treatment of such a condition with negative-pressure wound therapy (NPWT) in a 70-year-old man which benefited from extra-anatomic prosthetic axillofemoral bypass. After a week of treatment, the fistula dried up and closure was obtained with simple suture under local anaesthesia. Follow-up at 9 months showed stable coverage without any sign of leakage.

Discussion: This study depicts NPWT as an effective non-invasive treatment in the management of groin lymphocutaneous fistula.

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Introduction

Groin lymphorrhea arise in about 2%¹ of vascular procedures involving the femoral vessels. It can present as a closed accumulation or as lymphocutaneous fistula. Available treatments encompass conservative and drug therapies, external radiotherapy, and surgical ligation with or without flap.

Negative-pressure wound therapy (NPWT) has been recently used in a growing number of clinical situations where impaired wound healing is present. We report our experience with NPWT in the treatment of a recalcitrant post-surgical groin lymphocutaneous fistula.

Report

Seven weeks after a right extra-anatomic prosthetic axillofemoral bypass, a 70-year-old man presented with groin lymphorrhea. Past medical history was relevant for type 2 diabetes, dyslipidemia, hypertension and multiple vascular and endovascular procedures involving the right iliac and femoral axis. Bacteriological smears displayed the

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presence of *Staphylococcus aureus* and the patient then received cloxacillin. Local treatment consisted in a daily topical sodium hypochlorite. Still, lymphatic leakage persisted despite two weeks of conservative treatment and negativity of subsequent bacteriological studies. Clinical diagnosis of lymphorrhea was made in front of large outputs of clear serous fluid saturating three large dressings per day. The wound bed was clean without any sign of gross infection and without exposure of the anastomosis (Fig. 1).

NPWT was instituted as an in-hospital treatment. It consisted in the placement of a foam sponge (VAC, Kinetic Concepts, San Antonio, Texas) into the fistula tract that was draped with an adhesive, and with the tubing system connected to a continuous negative pressure pump (125 mm Hg). This system was changed on a 72-hours basis. After 6 days of treatment, the lymphatic leakage had dried up and the wound margins were approximated with two nylon stitches under local anaesthesia. The patient was discharged with oral Cloxacillin antibiotherapy for two weeks. Follow-up at 9 months demonstrated stable coverage without any leakage recurrence (Fig. 2).

Discussion

Lymphocutaneous fistulas with intractable leakage represent a serious postoperative condition which has various treatment options. Nonoperative treatments of high-output leakage are often ineffective.¹ Moreover, they tend to lengthen the hospital stay, to augment the infection risk, and to lead to several recurrence.

Early surgical ligation for lymphocutaneous fistulas, with or without vital dye assistance, has many proponents. This



Figure 1 Groin lymphocutaneous fistula before NPWT.



Figure 2 Groin wound after complete closure.

approach leads to 0 to 10% recurrence rates.¹ Some authors advocate an even more aggressive treatment with pedicled muscle flaps in order to prevent wound infection and to improve wound drainage.²

NPWT has gained wide acceptance during the past ten years and its indications broaden with clinical studies. Its known mechanisms are an increased local perfusion, an enhanced granulation tissue formation, and bacterial clearance. However, presence of large amounts of necrotic tissues implies thorough surgical débridement prior to NPWT initiation. Previous application in the management of lymphocutaneous fistula has been reported twice in the literature, concerning 5 patients.^{3,4} Lymphatic leakages stopped between 5 and 19 days of NPWT and no recurrence was noted on follow-up. The putative mechanism is the vacuum-mediated growth of granulation tissue around the damaged lymphatic vessel with their subsequent sealing. One major concern about NPWT in vascular surgery is the risk of anastomosis disruption due to direct mechanical trauma. In our case, the anastomosis was not visible and the foam sponge was directly inserted into the lymphatic tract. In case of exposed grafts, it is safe to interpose a non-adherent dressing between the anastomosis and the sponge.⁵

Conclusion

This study depicts NPWT as an effective non-invasive treatment in the management of groin lymphocutaneous fistula. Moreover, it improves skin integrity around the fistula and lowers requirements in dressing changes. It is a less invasive procedure than surgical ligation and, in our experience, had similar time interval to resolution of the

leakage. In such a particular indication, it does not seem to confer any additive morbidity.

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