

TachoSil® in the Treatment of Postoperative Groin Lymphatic Fistula

Dear Editor,

Vascular reconstruction unavoidably results in lymphatic injury due to the intricate association of lymphatics with arteries and veins. There are also significant lymph node groups found near the major vessels. The lymphatic system, however, has a remarkable ability to regenerate and most injuries to the lymphatics heal spontaneously without lasting effects. In some cases, however, lymph swelling, lymph fistulas and lymphocele can occur. Although lymphatic complications are relatively uncommon, long-term lymphatic leaks incur the risk of infection which can be dangerous especially in patients with vascular prosthesis in the groin.¹ Further, there are no standard procedures for detecting and treating lymph fistulas. Existing treatments are conservative approaches and surgical intervention.^{1,2} Recommendations for initial conservative approach have significant disadvantages: extended hospital stay and increased risk of wound and graft infection. Some authors therefore recommend early surgical intervention.^{3,4}

Here we present a modified conservative approach involving TachoSil® placement in groin wound with a lymphatic leak. TachoSil® [Nycomed Austria GmbH] is used as a topical haemostatic treatment for bleeding from parenchymatous organs and non-surgical treatment for bleeding from vascular anastomoses in surgery.

Case Reports

Four cases of patients with postoperatively persistent lymphatic groin fistulas who were successfully treated by local TachoSil® placement were reported.

Over the period 2008 to 2009, our department followed-up 720 patients for arterial revascularisation in the groin. Surgical procedures were performed on both autologous beds and used artificial vascular grafts. In all patients, the groin wound was primarily closed and the wound secretion drained via Redon drains. The incidence of confirmed groin wound lymphatic complication was 1.1% (8 patients). The mean time to identification of lymphatic complications after surgery was 10 days. Lymph fistulas were confirmed by laboratory examination of total protein, albumin and triglycerides in wound secretions.

In the first 4 patients, surgical intervention (stitching of the lymphatic channels) were used with unconvincing results. In the following cases, we introduced initial conservative

treatment (bed rest, leg elevation, compressive dressings, and intermittent aspiration). After this conservative treatment lasted 9 to 20 days did not show any success, we used a single topical haemostatic, TachoSil® [Nycomed Austria GmbH] in 4 of the cases that were proven to be infection-free (negative culture of the lymphatic drainage). TachoSil® is a ready-to-use collagen sponge patch coated with a dry layer of human coagulation factors, fibrinogen and thrombin. TachoSil® achieves haemostasis and sealing in 3 to 5 minutes. A small or medium sized Tachosil® patch was aseptically inserted into exuding wounds with the active area towards the lymph vessels. To ensure adhesion, the smooth flat end of tweezers was used for insertion. The wound was covered with sterile dressing, slightly compressed and dressed twice daily under sterile conditions.

There were no adverse effects of the TachoSil®. Lymph fluid loss was reduced within 3 days and stopped in the next 4 days in all the patients. The defect healed within 4 to 6 weeks. Three patients were followed-up for 6 months and one patient for 2 months. In no case was there any fistula recurrence.

Discussion

Lymph fistula after groin vascular reconstruction occurs in 0.8% to 6.4% of patients.^{1,2} Factors that contribute to lymphatic leakage are failure to ligate or cauterize divided lymphatics but not concurrent diabetes, infections of the operated leg or use of artificial vascular graft. The risk of its emergence is however, higher in a previously operated groin.⁵

Treatment for lymphatic fistulas is long-term, complicated and lacks any existing standardised guidelines. Initial conservative approach aims to stop the lymph secretion and prevent wound infection but there is no uniform view as to how long this should take. In case of failure, surgical treatment is indicated. This consists of attending to the surgical wounds in the groin with stitching of the lymphatic channels. Early surgical revision of the wound with lymph pathway closure is recommended especially in wounds where synthetic material has been used, as this reduces the risk of infection and shortens the length of hospital stay.^{3,4}

In treating some of our patients, we used surgical intervention (stitching of the lymphatic channels) with unconvincing results. This led us to introduce the novel

approach to lymph fistula treatment with the haemostat TachoSil®. The described effects on closure of the lymph fistulas can be explained by the sealing effect of the collagen sponge which reacts on contact with body fluids to form a clot that adheres to the tissue surface, creating a liquid-tight seal. Local TachoSil® treatment was successful in all of the patients. We did not use Tachosil® treatment in cases of suspected local infection of the lymph fistula. There were no side-effects locally or systemically. We experienced no closed underlying lymphocoeles in our cohort.

One limitation of this report is the small number of treated patients. In the literature there is only one report of topical haemostatic treatment in postoperative lymph fistula, arising after lymph node dissection. Comparison of Tachosil® treatment effectiveness with historical controls from our department is limited due to poor monitoring. Further trials will be required to evaluate this novel therapeutic concept. Given the low incidence of confirmed groin wound lymphatic complication after vascular reconstruction, a multicenter study would have more validity.

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