

ADHESIVE SEALANT BIOMATERIALS

Clinical Series

Use of TissuePatch sealant film for treating chylous leak after major neck surgery

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Pre-operative status

A 40 year old African lady initially presented to the Mercy Ships with a 12 year history of a non-tender slow growing left supraclavicular mass. Ultrasound and Computed Tomography (CT) revealed a large soft tissue mass separated from the pleura, suggestive of a teratoma. Fine needle aspiration cytology was non-conclusive.

Surgical procedure

The patient underwent excision of the extensive teratoma with preservation of brachial plexus and accessory nerve with no chylous leak. During extubation, the patient developed a small haematoma which was evacuated on the same day. Her postoperative course was complicated by a slowly enlarging left lower neck swelling. Surgical exploration of the neck showed a chylous collection of over 1 litre of blood-stained chyle from 3 sources of chylous leak. These were identified at the inferior and mid cervical regions and they were ligated and oversewn with surrounding soft tissue.

Treatment with TissuePatch3™

A 50 × 50 mm TissuePatch3 was cut into 2 small pieces and applied over 2 of the potential leaks. The base of the neck cavity was dried and the patch easily conformed to the contour of the tumour bed. The patch adhered to the underlying soft tissue after gentle pressure with a dry gauze for over 1 minute period. This provided an effective water-tight seal with no chylous leak on Valsalva manoeuvre.



Figure 1 Initial presentation of a benign neck teratoma



Figure 2 TissuePatch *in situ* over the repaired leak

Post-Operative Recovery

The patient developed a firm supraclavicular swelling, and re-exploration of the neck revealed leakage of chyle from a dilated mid cervical lymphatic channel. The 2 previous sources of leak at the base of the supraclavicular cavity, sealed effectively by TissuePatch3, remained dry with no leak.

Summary and Surgical Opinion

Chylous fistula is a rare but well recognised serious complication following major neck surgery. In addition to medical and surgical management of chylous fistula, TissuePatch sealant film can be used as an adjunct to ensure effective seal to the potential sources of chylous leak.

The TissuePatch sealant film was easy and quick to apply, bonding adhesively with the underlying soft tissue bed. The film conformed well to the irregular surface of the tumour bed and potential sources of chylous leak. As it is a synthetic biodegradable material, it is therefore safe to use leaving no foreign body over the neo-tissue.