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An effective compression method with a hydrophilic vinyl polysiloxane impression material on the supraclavicular fossa as conservative treatment of chyle leak after neck dissection

KEYWORDS
Chyle leak;
Compression method;
Conservative treatment;
Hydrophilic vinyl polysiloxane impression material

A chyle leak is a rare complication that is caused by damage to the thoracic duct or right lymphatic duct during neck dissection.[1] Prolonged leaks will lead to protein loss, systematic metabolic imbalance, wound infection, longer hospital stays, and increasing cost of the treatment. The treatments comprise local pressure dressings, oral dietary modifications (a low-fat medium-chain triglyceride diet, fat-free diet, or total parenteral nutrition), administrations of somatostatin or its synthetic analog octreotide, interventional radiology, and surgery.[1,2] Following confirmation of a chyle leak, the first line of treatment is usually conservative management, but surgical interventions are required when conservative treatments are not successful. Conservative treatments commonly result in prolonged hospitalization, and the optimal timing of surgical intervention remains controversial.[3] Therefore, we reported an effective compression method on the supraclavicular fossa as conservative treatment of chyle leak after neck dissection.

A hydrophilic vinyl polysiloxane impression material (EXAFINE PUTTY TYPE®, GC, Tokyo, Japan) was used as the compression material on the supraclavicular fossa for conservative management of chyle leak after neck dissection. Equal amounts of yellow base putty and blue catalyst putty were mixed for about 20 s until a uniform color was achieved. After the material was formed into a triangular pyramid with rounded corners in 1 min (Fig. 1A), the material without deformation was placed in the supraclavicular fossa and compressed with an adhesive cotton cloth stretching bandage (Fig. 1B and C). After the compression was performed for a few days, low/medium-output chyle leaks could be controlled.

Although there are no official guidelines for the treatment of postoperative chyle leak,[4] the management of chyle leak is generally dependent on the daily amount of leakage.[1,2] Conservative treatments should be tried when the drainage volume of the chyle is less than 1000 mL/day,

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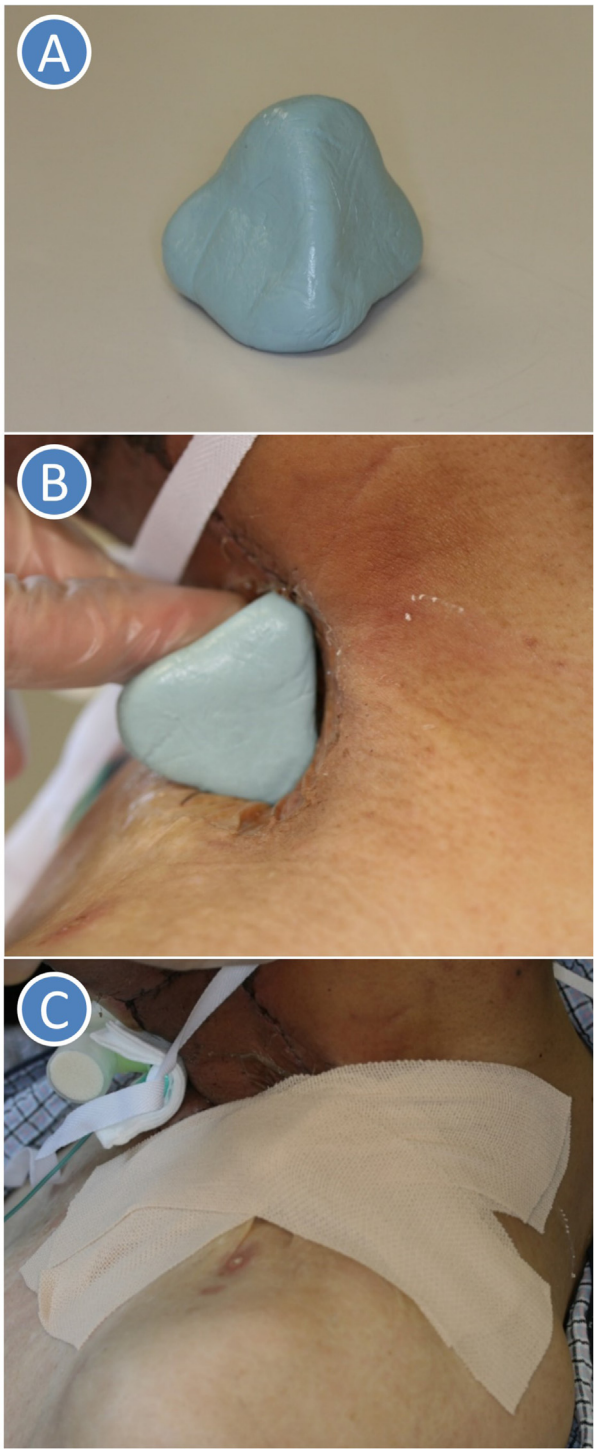

Figure 1 (A) A silicon material that was formed into a triangular pyramid with rounded corners, (B and C) The material was placed in the supraclavicular fossa and compressed with an adhesive cotton cloth stretching bandage.

while the failure of either conservative treatments or a high-output chyle leak usually requires surgical management.[1,2] Therefore, effective conservative treatments are required.

Traditional pressure dressings including thick dressings with an elastic bandage are performed to put pressure on the point of leakage, but the dressings are not always effective because the anterior clavicle significantly interferes with the pressing effect on the supraclavicular fossa.[3] To overcome the problem, Xiang et al.[3] reported a finger-pressing method that applies continuous and moderate pressure for 24 h. In this method, a folded square dressing the size of the supraclavicular fossa is placed between the two muscle heads of the sternocleidomastoid and the thumb is then pressed onto the dressing inferiorly towards the clavicle and medially towards the sternal head of the sternocleidomastoid. All the pressing work is carried out by care workers or by family members of the patient according to a hands-on demonstration from a doctor. Although the leak could stop after continuous 72 h of finger-pressing, the application is very difficult because this method requires manual labor. In contrast, our method for chyle leaks after neck dissection can provide effective and continuous pressure on the supraclavicular fossa without manpower.

Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

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