

Surgical management of cervical chyloma following parathyroidectomy[☆]

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Received 3 August 2010; accepted 21 September 2010

Available online 22 January 2011

Abstract

Although rare, chylomas can present as a neck mass, especially in the post-operative setting. Here, we present a case of a persistent cervical chyloma following parathyroidectomy and propose a management algorithm for this clinical entity.

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Keywords: Chyloma; Lymphocele; Neck mass; Thoracic duct; Parathyroidectomy

1. Introduction

Chylomas, or chylous lymphoceles, are pseudocystic collections arising from the thoracic duct or its tributaries. Although rare, chylomas should be considered on the differential diagnosis of a patient presenting with a lower neck mass, especially in the post-surgical setting. Diagnosis can be guided by imaging, needle aspiration of the cystic content and fluid analysis. Management has ranged from dietary modification and repeated aspirations to surgical exploration and excision, with the latter approach providing a reliable option when conservative treatments fail. Here, we report a case of a persistent post-operative cervical chyloma following parathyroidectomy successfully treated with surgical excision. In addition, we propose a treatment algorithm for this infrequent entity.

2. Case report

A 56-year-old woman underwent a left inferior parathyroidectomy for a parathyroid adenoma at an outside institution. A complex dissection ensued which revealed the adenoma to be located deep to the recurrent laryngeal nerve

on the left side. The adenoma was identified and removed. A drainage catheter was placed in the surgical bed. Post-operatively, the patient experienced an appropriate drop in her calcium and parathyroid hormone levels. On the first post-operative day, she was noted to have milky output in her drain. The catheter was removed without issue with anticipation that the leak would resolve. The patient was started on a low fat diet. Over the ensuing days, she noticed a soft, fluctuant swelling in her neck. Aspiration of the mass at one-month follow-up yielded 12 mL of milky fluid. Within a few days, the mass recurred. The patient underwent a trial of successive needle aspirations. Despite nine attempts at needle decompression, with drainage of 3–10 mL of fluid at each setting, in addition to a low-fat diet, the chyle-filled cyst recurred. On presentation to our institution, three months status-post her initial procedure, a soft, painless mass was noted centrally at the base of the neck, inferior to the previous incision. The remainder of her physical examination was unremarkable. A non-contrast computed tomography (CT) scan of the neck demonstrated a 3.8 cm × 2.2 cm × 3.0 cm low-density midline mass at the level of the mid to inferior thyroid gland (Fig. 1A and B).

A surgical excision was performed using continuous recurrent laryngeal nerve monitoring which revealed a well-circumscribed lesion filled with milky fluid emanating from the previous surgical bed (Fig. 2A). The cyst was removed in its entirety after its attachments were meticulously ligated (Fig. 2B).

[☆] Case presented at the Trilogical Society Combined Sections Meeting, Orlando, FL, February 4th–7th, 2010.

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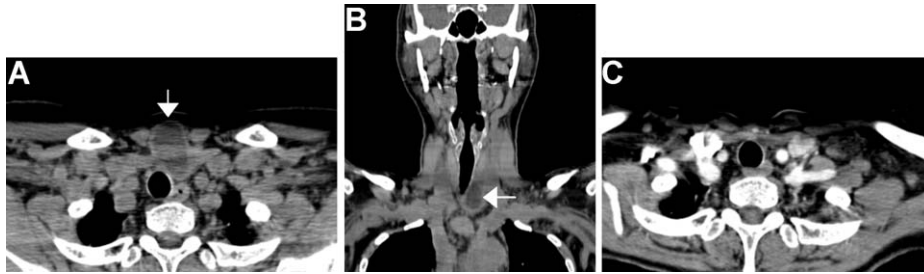


Fig. 1. Pre-operative axial (A) and coronal (B) computed tomography views demonstrating a left paratracheal cystic lesion (white arrows). (C) Follow-up axial CT performed three months post excision showing the absence of the prior lymphocele.

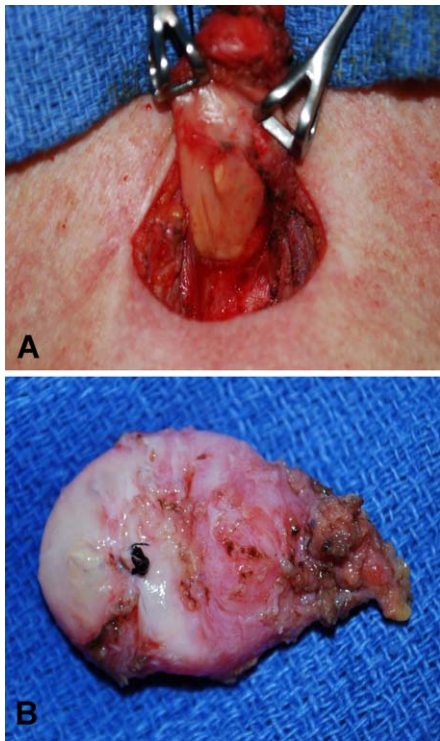


Fig. 2. (A) Intra-operative photograph demonstrating a pedunculated cystic mass arising from the previous surgical bed. (B) Well-encapsulated mass status-post excision.

The specimen on gross examination consisted of a tan cystic structure measuring 4.0 cm × 2.5 cm × 1.5 cm. Histological sections revealed a circumscribed space lined by organizing fibrin and luminal lymphocytes, with evidence of chronic inflammation. No endothelial cells were identified. Together, these findings confirmed the diagnosis of a cervical lymphocele (Fig. 3A and B). Post-operatively, the patient was maintained on a medium-chain triglyceride diet for one week with no evidence of recurrence both clinically and on repeat radiographic imaging performed at three-month follow-up (Fig. 1C).

3. Discussion

The thoracic duct is the principle lymphatic conduit, responsible for the return of lymph and dietary fat to the venous system. It serves as the confluence of lymphatic vessels from most of the body with the exception of the right thorax, right arm, right head and neck and left lower lobe of the lung, which drain via the right lymphatic duct [1]. It transports 2–4 L of chyle daily. The duct originates at the cisterna chyle, a dilated reservoir for lymph and chyle at the level of L1–L2, and ascends through the aortic hiatus into the posterior mediastinum. It exits the thorax through the thoracic inlet anterior to the left subclavian artery [1].

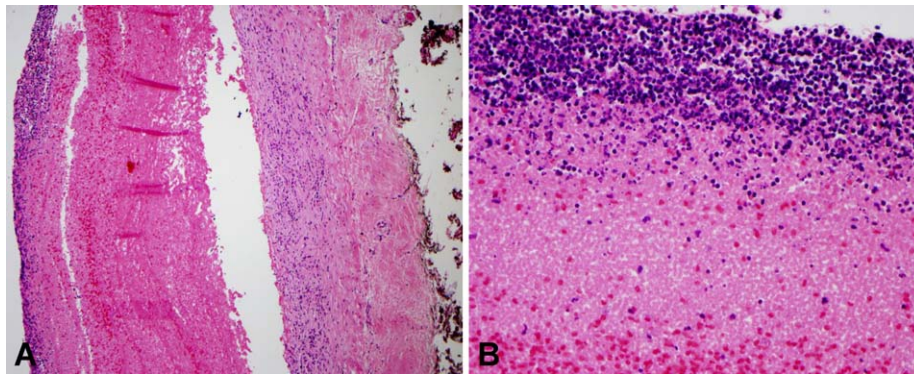


Fig. 3. (A) Chyloma wall demonstrating mural fibrosis and chronic inflammation (hematoxylin and eosin, 100×). (B) Chyloma contents with lymphocyte infiltration and organizing fibrin and blood (400×).

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