

# Chylous Fistula Following Axillary Lymphadenectomy

## Fístula quilosa poslinfadenectomía axilar

Axillary lymph node dissection is one of the pillars of locoregional breast cancer treatment. Its possible complications include seroma, lymphorrhea, lymphocele, chronic lymphedema and sensory alterations on the underside of the arm.<sup>1</sup> Chylous fistula is a complication that presents in thoracic, abdominal and neck surgery, but it is rare in axillary clearance. These complications can delay the start of adjuvant therapy. We present a case report of a chylous fistula after axillary lymphadenectomy due to breast cancer. We also performed a search of the literature related to the clinical presentation and treatment of this entity.

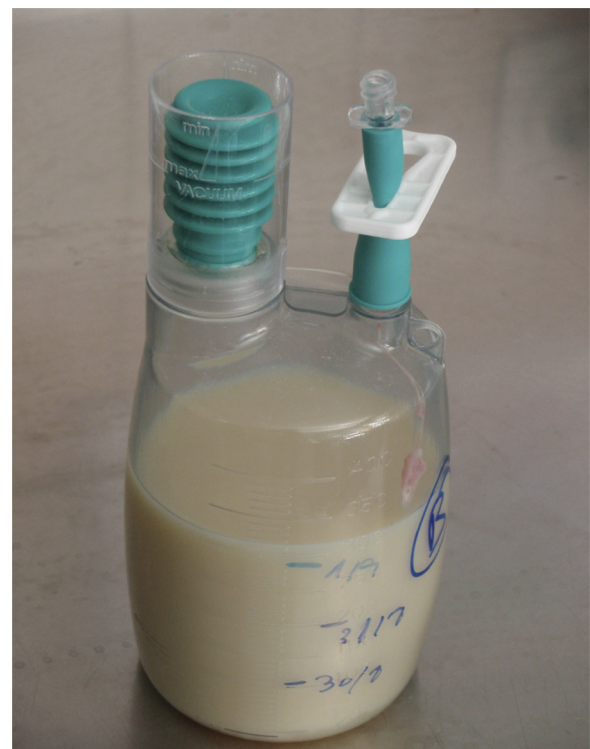
The patient is a 55-year-old woman with a history of iodine allergy, hypertension, type II diabetes mellitus and liver transplantation due to cirrhosis of the liver 10 years earlier. A tumor in the upper half of the left breast and hemorrhage through an orifice in the nipple had been detected.

A mammogram showed small breast asymmetry with increased density of the left breast at the level of the upper outer quadrant, which had multiple fatty areas and was not accompanied by distortion of the tracts or clustered microcalcifications. Ultrasound detected no clear alterations. Magnetic resonance imaging revealed findings consistent with a malignant lesion affecting the upper quadrants of the left breast (probably lobular carcinoma) and axillary lymphadenopathies of a pathological size. Core needle biopsy (CNB) of the left breast was positive for grade II infiltrating ductal carcinoma and ductal carcinoma in situ without vascular invasion. Immunohistochemical study revealed estrogen receptor (–), progesterone receptor (–), Ki67: 65% and 45 Her2/neu (c-erbB2): 1+. The extension study was completed with thoracic computed tomography (CT) and bone scan, which showed no metastasis. The case was submitted to the Committee on Breast Cancer, at which time it was decided to perform surgery with adjuvant treatment. The left mastectomy technique described by Madden was used with left axillary lymph node dissection of levels I and II. The pathology study revealed: multicentric infiltrating ductal carcinoma, Nottingham grade 3 (T2, P3, M3), with an approximate size of 10 cm×10 cm; high-grade intraductal carcinoma with intratumoral comedo-necrosis; neoplastic infiltration in 6 of the 12 isolated lymph nodes; lymphovascular invasion; pathological stage pT3 pN2a. Surgical resection margins were free of neoplastic involvement. Immunohistochemical study showed estrogen receptor (–), progesterone receptor (–) Her 2neu 45 (–) and Ki67: 24%.

On the second day of the postoperative period, the discharge through the axillary drain was 230 mL, and from the fifth day its characteristics were suggestive of chylous effusion (Fig. 1). The analysis of the extracted liquid showed that it contained 2751 mg/dL of triglycerides. After initiating a

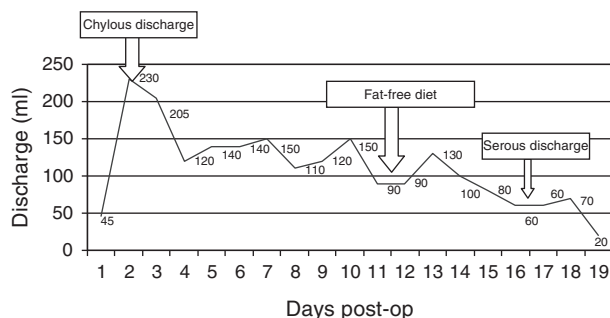
fat-free diet, it was possible to reduce the discharge to 90 mL/day and modify the characteristics of the liquid, which allowed us to withdraw the drain 20 days post-op and discharge the patient (Fig. 2). At the 3-month follow-up office visit, no seroma or other complications were observed, and the patient was able to start adjuvant treatment with radiotherapy and chemotherapy.

Chylous fistula is a rare complication of axillary lymph node dissection, with some 10 cases having been described in the literature.<sup>2,3</sup> It can be caused by injury to the aberrant lymphatic vessels associated with the thoracic duct. Anatomical studies have demonstrated that in over 30% of cases the thoracic duct divides into branches and up to 4% empty into the venous system through these multiple branches<sup>4</sup>; in these cases, 1% empty into the higher and medial portions of the axillary vein. These anatomical variations make the problem more prevalent in lymph node dissection on the left side. Usually, lymphadenectomy is performed outside the area where the thoracic duct and the venous system connect.



**Fig. 1 – Lactescent appearance of the liquid accumulated in the axillary drain device.**

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**Fig. 2 – Chart showing the evolution of the discharge and characteristics of the axillary drain liquid.**

Diagnosis is made by the presence of suspiciously high discharge through the postoperative axillary drains (more than 500 mL/day) or with the presentation of a thick lactescent effusion. It is confirmed by triglyceride content ( $>110$  mg/dL) and/or a high percentage of chylomicrons. It is estimated that triglyceride levels above 110 mg/dL are diagnostic of chylous fistula, while values between 50 and 110 mg/dL require determination of chylomicrons to confirm the diagnosis.<sup>5</sup> As complementary diagnostic tests, lymphoscintigraphy and lymphography are recommended, which are used to assess the injury to the thoracic duct.<sup>6</sup>

During axillary lymph node dissection, especially on the left side, care should be taken not to injure the lymphatic ducts in the deepest part of the axillary space. However, if the chylous fistula is found during surgery, these should be ligated. If it occurs in the immediate postoperative period, treatment should be conservative.<sup>2,7,8</sup> When the liquid through the drain tube acquires a chylous appearance after the start of food intake, it is recommended to establish a fat-free diet and, for the most persistent cases, peripheral or enteral nutrition is recommended with medium-chain media triglycerides.<sup>9</sup> The use of digestive secretion inhibitors (somatostatin, octreotide) may also be considered as they are applied in the treatment of chylothorax.<sup>10</sup> Surgery should only be considered in exceptional cases in order to ligate the vessels causing the effusion.<sup>5</sup>

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