CASE REPORT

Lateral Cervical Cyst: A Case Report

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ABSTRACT

Cystic degeneration of cervical lymph nodes is the most accepted theory for occurrence of lateral cervical cyst. It is commonly found in the anterior triangle of the neck, anterior to the upper third of the sternocleidomastoid. Clinical examination, imaging modalities, such as ultrasonography, computed tomography (CT) and magnetic resonance imaging (MRI), and fine needle aspiration cytology (FNAC), are useful investigations to establish the diagnosis. Surgical excision of these lesions is reasoned curative in most of the cases. Authors report a case of lateral cervical cyst which was successfully operated.

Keywords: Lateral cervical cyst, branchial cleft cyst, lymphoepithelial cyst

The cervical lymphoepithelial or branchial cleft cyst is a developmental cyst. The pathogenesis for this cyst is not well-understood[1]. Hunczovsky in 1785 gave the first account of cysts in the lateral part of neck. Four key theories have been described in the literature to ascertain their etiology[2]. Ascherson (1832) described a "branchial theory" which suggested that the cysts occurred due to incomplete obliteration of branchial cleft mucosa, which remained in a dormant state until stimulated later in life, when it starts growing. His, in 1886, proposed the "precervical sinus theory" and said that these cysts were related to the cervical sinus and not the pharyngeal clefts or pouches. Wenglowski, in 1912, suggested that the lateral cervical cysts originated from the third pharyngeal pouch (thymopharyngeal duct theory). During the 19th century, some investigators found an association between lateral cervical cysts and lymphoid tissue (Lucke, 1861). In 1848, Luschka pointed that the formation of lateral cervical cysts was driven by cystic degeneration of cervical lymph nodes. It was only after King (1949) assessed the histology of a large number of lateral cervical cysts and noted that they originate from cystic transformation of cervical lymph nodes that the "lymph node theory" gained significance[3]. Evidence confirming the lymph node theory was provided by Bhaskar and Bernier, who reviewed histopathology of 468 cysts, out of which 452 cysts (96%) were found to be composed of a wall of lymphoid tissue lined with squamous or columnar cells[4]. Due to a difference in the position, King suggested that any cyst arising outside the midline, with the histological features as stated above should be regarded as a lymphoepithelial or a branchial cyst[2,3]. While both the branchial cysts and fistulas have been regarded as having branchial origin, now it is believed that branchial cysts have a nonbranchial origin.

CASE REPORT

A 25-year-old woman attended ENT OPD of our medical college and hospital with history of a painless, movable, firm mass in the right side of neck, which had been present for the past 6 months, and was gradually increasing in size. Local clinical examination revealed a solitary, diffuse, nontender cystic swelling of about 5 × 3.5 cm, on the right side of the neck, just anterior to sternocleidomastoid muscle (Fig. 1). The swelling was nonpulsatile. The carotid pulsations were normal. Ultrasonography showed a cystic mass with smooth margins, just behind the right submandibular salivary gland and anterior to the jugular vein. Thyroid gland was normal and there was no evidence of any other mass (Fig. 2). On fine needle aspiration cytology (FNAC) smears from aspirated thick, yellow-colored material revealed bloody to fatty background and many anucleate sqaumes. Squamous epithelial cells of varying maturity were also seen in the aspirated fluid.

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Figure 1. Swelling on the right side of the neck.

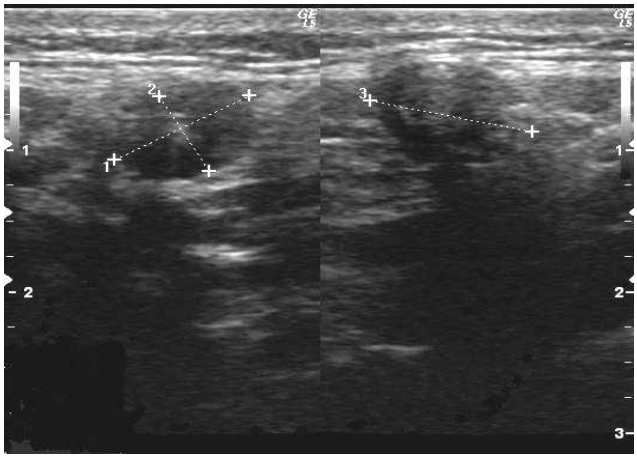

Figure 2. Ultrasonography of the cyst.

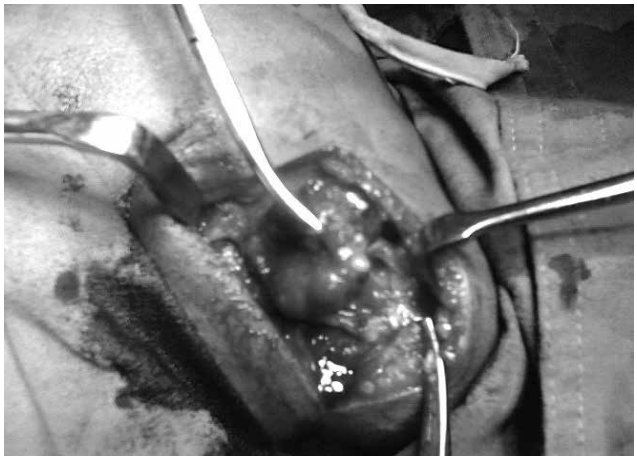

Figure 3. Intraoperative image.

Figure 4. Cyst excised *in toto*.

The patient was taken for excision of the mass under general anesthesia with a provisional diagnosis of lateral cervical cyst. A lateral cervical crease incision was made 2.5 cm below the lower border of mandible and the neck was explored. The sternocleidomastoid muscle was identified and retracted backwards. A thick walled cyst was found anterior to sternocleidomastoid, posterior to submandibular gland and below the mandible. The investing layer of deep fascia was opened and cyst was dissected from surrounding structures by fine scissors (Fig. 3). No tract or cord was found connecting the cyst to the skin or pharynx. The carotid and jugular vessels were found to be normal. The cyst was excised *in toto* and sent for histopathology (Fig. 4). The wound was closed after introducing minivac drain. Postoperative period was uneventful, the drain was removed after 48 hours and stitches were removed after 7 days. On histopathological examination, the wall of the cyst was found to be composed of stratified squamous epithelium with underlying lymphoid tissue aggregates. Patient is doing well 3 months after excision of the cyst.

DISCUSSION

Lateral epithelial cysts are more prevalent among females and usually occur in the 2nd or 3rd decade of life.[2] These cysts are most often observed in the anterior triangle of the neck, anterior to the upper third of the sternocleidomastoid. However, they have rarely been reported in the posterior triangle of the neck as well[5]. Differential diagnosis for this cyst includes lymphangioma (cystic hygroma, lymphatic malformations), glandular cysts, lymph nodes, ranulas, dermoid cysts, laryngoceles, thyroglossal duct cysts, lipomas, hemangiomas (venous malformations) and paragangliomas.

Preoperative diagnosis is a challenge. Clinical examination, imaging modalities, such as (ultrasonography, computed tomography [CT] and magnetic resonance imaging [MRI]), and FNAC help establish the diagnosis of a patient with a cystic mass of the neck. Titchener and Allison were able to establish a correct preoperative diagnosis in only 22 out of 42 cases, and have

emphasized the role of preoperative ultrasonography of the neck and FNAC to assess such cases[6]. These lesions can be easily assessed using sonography because of their typically superficial nature[7]. USG and FNAC are particularly advocated for patients in the older age group to rule out cystic secondaries from head and neck malignancies.

However, even the advanced diagnostic tools may fail to rule out the presence of malignancy within a cystic mass in the neck. Hence, cyst biopsy is required to exclude malignancy, especially in patients above 40 years of age. Frozen section at the time of cyst excision may be performed. Surgical excision of these lesions is reasoned curative and recurrence is unlikely if all remnants are excised[1].

Lateral cervical cysts containing squamous cell carcinoma may represent a cystic metastasis from an occult carcinoma. Several imaging techniques or even blind biopsies can detect the primary tumor. If the primary tumor is detected, an appropriate decision regarding treatment can be made encompassing both the primary tumor and the cervical node. However, if the primary tumor is not identified, treatment involves a modified or radical neck dissection, based on the extent of metastatic disease, and radiation therapy should be administered to Waldeyer's ring and both sides of the neck[8].

CONCLUSION

The case presented here reinstates the utility of ultrasonography of the neck and FNAC in establishing the diagnosis of lateral cervical cyst. Excision is the treatment of choice.

In our patient, we excised the cyst completely and the patient has been doing well since 3 months post-surgery.

Acknowledgment

Authors are grateful to Dr VK Mahadik, Medical Director, RD Gardi Medical College and Ujjain Charitable Trust Hospital, Ujjain (MP), for giving permission to publish this paper and for encouragement and support.

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