

# Lateral Cervical Cyst

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## Abstract

Cystic degeneration of cervical lymph nodes is most accepted theory for occurrence of the lateral cervical cyst. They are most commonly found in the anterior triangle of the neck anterior to the upper third of the sternocleidomastoid. Clinical examination, various imaging methods (Ultrasonography, CT and MRI), and FNAC are useful investigations to ascertain diagnosis. Surgical excision of these lesions is reasoned curative in most of the cases. Authors report a case of lateral cervical cyst, which has been successfully operated.

## INTRODUCTION

The cervical lymphoepithelial or branchial cleft cyst is a developmental cyst that has a controversial pathogenesis. <sup>1</sup> Hunczovsky in 1785 gave the first account of lateral cysts of the neck. <sup>2</sup> Four theories have been mentioned in the literature to interpret their aetiology. <sup>2</sup> Ascherson (1832) in his 'branchial theory' suggested that the cysts arose due to incomplete obliteration of branchial cleft mucosa, which remained dormant until stimulated to grow later in life. His (1886) proposed 'precervical sinus theory' saying that these cysts were related to the cervical sinus rather than the pharyngeal clefts or pouches. Wenglowski (1912) believed that the lateral cervical cysts developed from the third pharyngeal pouch (thymopharyngeal duct theory). A number of investigators during the 19th century noted the close relationship between lateral cervical cysts and lymphoid tissue (Lucke, 1861). Luschka (1848) suggested that cystic degeneration of cervical lymph nodes was the process by which lateral cervical cysts were formed. This 'lymph node theory' received little uphold until King (1949) studied the histology of a large number of lateral cervical cysts and concluded that they arise from cystic transformation of cervical lymph nodes. <sup>3</sup> Corroborative evidence to 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. <sup>4</sup> Due to the variance of the position King suggested that any cyst arising outside the midline, with the histological features as above should be regarded as a lymphoepithelial or a branchial cyst. <sup>2,3</sup> Although both the branchial cysts and

fistulas were considered to be of branchial origin, now it is believed that 'branchial cysts' have a non-branchial origin.

## CASE REPORT

A 25-year-old woman attended ENT OPD of our medical college hospital with history of a painless, movable, firm mass in the right side of neck, which had been present for the past 6 months, gradually increasing in size. Local clinical examination revealed a solitary, diffuse, non tender swelling of about 5 x 3.5 cms, cystic, on the right side of the neck just anterior to sternocleidomastoid muscle. The swelling was non-pulsatile. The carotid pulsations were normal (Figure \_1).

### Figure 1

Figure 1: Clinical photograph of the patient

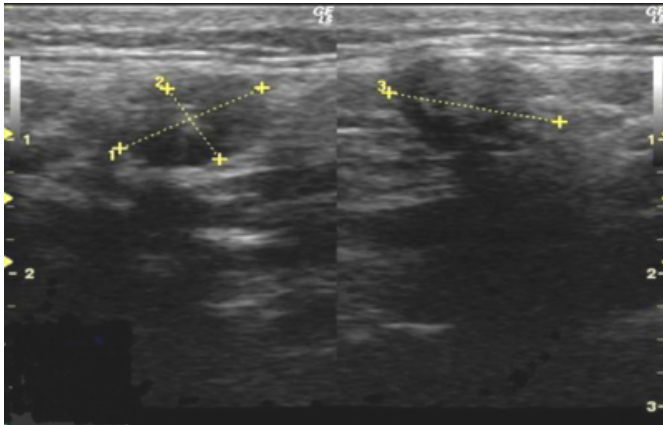


Ultrasonography showed a cystic mass with smooth margins, just behind the right submandibular salivary gland

and anterior to the jugular vein. Thyroid gland was normal, No evidence of other mass lesion seen. (Figure\_2).

**Figure 2**

Figure 2: Ultrasonography of the cyst



On FNAC smears from aspirated thick, yellow coloured material revealed bloody to fatty background and many anuclear squames. Squamous epithelial cells of varying maturity were also seen in the aspirated fluid.

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 given 2.5 cms 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 (Figure\_3).

**Figure 3**

Figure 3: Operative photograph



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 (Figure\_4).

**Figure 4**

Figure 4: Photograph of the cyst



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. The patient is doing well 1 year after excision of the cyst.

**DISCUSSION**

Lateral epithelial cysts are found more commonly in females and usually occur in the 2nd or 3rd decade of life. <sup>2</sup> They are most commonly found in the anterior triangle of the neck anterior to the upper third of the sternocleidomastoid. Although it has rarely been reported in the posterior triangle of the neck. <sup>5</sup> Differential diagnosis 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 remains difficult. Clinical examination, various imaging methods (including Ultrasonography, CT and MRI), and fine-needle aspiration cytology (FNAC) are useful investigations to ascertain diagnosis of a patient with a cystic mass of the neck. Titchener and Allison could make a correct preoperative diagnosis in only 22 out of their 42 cases, and have emphasized the role of preoperative ultrasonography of the

neck and FNAC for evaluation of such cases. <sup>6</sup> These lesions are deemed amenable to sonography because of their typically superficial nature. <sup>7</sup> USG and FNAC are especially advised for patients in the older age group to rule out cystic secondaries from head and neck malignancies.

Unfortunately, even the advanced diagnostic methods are frequently unpredictable to exclude the presence of malignancy within a cystic mass in the neck. Therefore, cyst biopsy should be carried out to rule out malignancy, especially in patients more than 40 years of age. Frozen section at the time of cyst excision may be performed. Surgical excision of these lesions is reasoned curative; with recurrence, unlikely if all remnants are removed. <sup>1</sup>

Lateral cervical cysts containing squamous cell carcinoma may represent a cystic metastasis from an occult carcinoma. Various imaging techniques or even blind biopsies are done to identify the primary tumour. If the primary tumour is identified, an appropriate decision can be made that incorporates both the primary tumour and the cervical node. If the primary remains unidentified, the neck is treated with a modified or radical neck dissection, depending on the extent of metastatic disease, and radiation therapy should be administered to Waldeyer's ring and both side of the neck. <sup>8</sup>

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