



## Otorhinolaryngology

## UNUSUAL PRESENTATION OF BRANCHIAL CYST CLEFT: A CASE REPORT.

<b>Dr Trilok Chand Guleria</b>	M S (Otorhinolaryngology) Department of H&FW . Civil Hospital Sandhol, distt Mandi
<b>Dr. Disha Sharma*</b>	Medical Officer Specialist(Otorhinolaryngology), Dr Radhakrishnan Govt. Medical College, Hamirpur, HP *Corresponding Author
<b>Dr. Harjitpal Singh</b>	Assistant Professor, Deptt. of Otorhinolaryngology, Dr Radhakrishnan Govt. Medical College, Hamirpur, HP
<b>Dr. Bharti Ranot</b>	Senior Resident, Deptt. of Otorhinolaryngology, , Dr Radhakrishnan Govt. Medical College, Hamirpur, HP

**ABSTRACT** Branchial cyst is commonly seen in children and young adults as painless solitary mass located at the upper and anterior third of sternocleidomastoid muscle. Unusual locations like oral cavity , mediastinum have been reported. Mean age of presentation is third decade . We present a case of 62 years old male with pain and swelling neck and oral cavity for two months. Ultrasonography and computed tomography showed a cystic swelling in the neck ,extending upto sublingual and submandibular region . The aim of our presentation is to highlight the rarity of disease and unusual presentation at the seventh decade of life.

**KEYWORDS :** branchial cyst, sternocleidomastoid, oral cavity, submandibular region

**INTRODUCTION:**

Branchial cyst is the second major cause of neck swelling in children , first being thyroglossal duct sinus which is 70% , branchial cyst & sinuses are 25% and rare are cystic hygromas 5% (1,6). Final diagnosis is made during surgery when stalk of the cyst is traced before that radiological investigation aid in finding the origin and extent of the swelling (7). Most of the time branchial cyst are asymptomatic but at times they may become infected during upper respiratory tract infection because of the lymphoid tissue located beneath the epithelium (1). Magnetic resonance imaging has more advantages over computed tomography but accuracy of computed tomography is also reported to be 90% in diagnosing branchial cyst also being low cost and easier imaging process makes computed tomography a preferred investigation .(3)

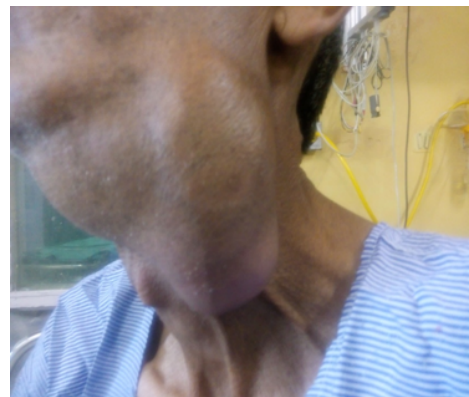
**CASE REPORT :**

62 years old male presented in our OPD with complains of swelling left side of the neck and oral cavity for a duration of 2 months with history of pain neck , also effecting his ability to speak and swallowing food . There was no history of pain , trauma or any difficulty in breathing . There was no history of any loss of weight , loss of appetite , and fever . On examination of oral cavity a pinkish globular swelling more towards left side was present , pushing the floor of mouth and tongue superiorly because of the lesion(image1).

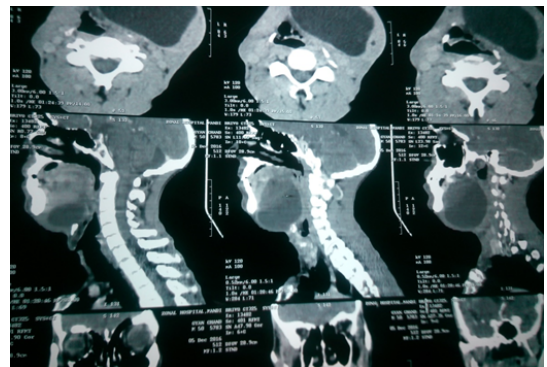


**Image 1 :** swelling present on the left side pushing the tongue and floor of mouth.

The swelling was extending from floor of the mouth to submandibular gland and laterally upto 2cm above the clavicle . On palpation swelling appeared to be soft and compressible , 7 \* 8cm in size non tender , non pulsatile ,movable with normal overlying skin (image2)

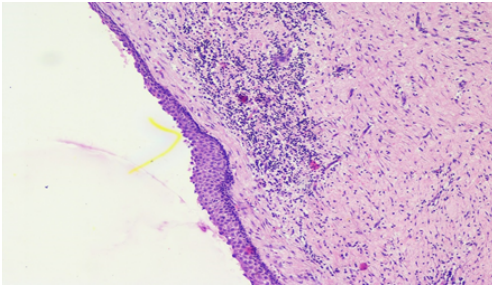


Ultrasonography showed large lobulated cystic lesion of size 72\*50mm in left submandibular region , internal echoes were seen with no vascularity suggestive of lymphangioma or abscess . Fine needle aspiration was done purulent aspirate was obtained showing monolayer sheets of ductal epithelial cells suggestive of infected epidermal cyst . Contrast enhanced computed tomography (CECT) was done which showed a large hypodense lesion of size 8.6\*7.7\*6.6 cm in sublingual and submandibular space bulging infero laterally around angle of mandible with no enhancement displacing the tongue along with oro pharynx ,left submandibular gland with normal fat planes and mandible (image3)



**Image 3** CECT neck of branchial cyst.

Patient was taken up for surgical excision and 25ml-30ml of pus was drained before removing it in totality. Cyst with its walls of size 7.5\*5.5\*4cm was removed and sent for histopathological examination which was suggestive of branchial cyst (image4 ).



**Image 4 showing cystic wall with stratified squamous epithelium and outside lies the lymphoid tissue**

Post operative period was uneventful . Scar was health and there was no recurrence even after two years of follow up.

#### **DISCUSSION:**

Lateral cyst of neck was first reported in the year 1785 by Hunczovsky . various theories related to the origin of brachial cleft cyst have been proposed like incomplete obliteration of brachial cleft mucosa ,persistence of vestiges of precervical sinus , cystic lymph node origin and thymopharyngeal lymph node origin.(1) The median age of presentation is usually third decade but in our case it was fifth decade of life.They usually occur in anterior to upper one third of sternocleidomastoid muscle but cases have been reported in the oral cavity ,salivary gland , the thyroid , mediastinum .(3) Although they present later in life , Brachial cleft cyst are congenital in nature in consistent with the location of brachial apparatus in fetal period these swelling are in close relation with external ear , angle of mandible , and upper lateral aspect of neck. It develops at the junction of upper 1/3 and lower 2/3 of anterior part- of sternocleidomastoid muscle but it can occur at any level from hyoid to suprasternal notch (1). Both computed Tomography and magnetic resonance imaging are investigation of choice in the diagnosis of Brachial cyst but magnetic resonance imaging is preferred because it confirms cystic nature of mass and more precise in defining the extent of lesion in relation to surrounding structure but clinically relevant information can be obtained from computed tomography and cost is low.(5) Differential diagnosis of brachial cyst includes thyroglossal cyst ,cystic hygroma ,carotid body tumour , suppurative lymphadenitis, lipoma ,neurofibroma, haemangioma , lymphangioma ,laryngocoele ,and plunging ranula .(3) The treatment of choice is complete resection of cyst under general anaesthesia via traverse cervicotomy incision. Complications that can occur during surgery are recurrence, trauma to carotid , cranial nerves and formation of fistula (6). In our case provisional diagnosis were abscess,ranula, epidermoid cyst , and brachial cyst and the mean age of presentation is usually the third decade but in our case the presentation was late that is the seventh decade of life which was an unusual presentation. Mass was pushing the floor of mouth and tongue which is mostly seen in plunging ranula .

#### **CONCLUSION:**

Brachial cleft cyst can easily be confused with various other neck swellings. Neck masses are more common in paediatric age group but seventh decade is a rare presentation .Clinical and radiological diagnosis helps in knowing the origin and extent of disease . Complete surgical resection is the treatment of choice .

#### **REFERENCES**

1. Panchbhai AS and Choudhary MS (2012). Branchial cleft cyst at an unusual location: a rare case with a brief review. *Dentomaxillofac Radiol.* 41(8): 696–702
2. Aboud KA, Hawsawi KA, Ramesh V, Aboud DA, Githami AA. First branchial cleft sinus: discussion [accessed 17 July 2009].
3. Murmu D,Satyam G, Hota P,K, Manipal P, ,Seetharamaiah. Branchial Cyst in the Neck – Late Presentation : A Case Report with Review of Literature. *J of Medicine and Medical Research* Aug 2014 ; vol.2(5):66-69.
4. Thomaidis V., Seretis K., Tamiolakis D., Papadopoulos N and Tsamis I (2006). Branchial cysts –a report of 4 cases. *Acta DermatovenAPA*; 15:85-89.5
5. Branstetter BF. Branchial cleft cysts, radiology, head and neck. [accessed 11 March 2009].
6. Ennouri A, Hajri H, Rehouma B, Marrekchi H. Kystes et fistules de la premiere fente. A propos de 5cas. *Rev Stomatol Chir Maxillofac* 1990; 91: 240-44.
7. Kotecha et al. Branchial cysts : an unusual cause of a mediastinal mass : a case report . *J of Medical Case Reports*(2015) 9:208 DOI10.1186/s13256-015-0680-y