

Case Series

Unusual neck masses encountered in remote areas of Sikkim

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ABSTRACT

Neck masses are one of the most common presentations in the ENT practice and they are a challenge in the diagnosis and management. The masses may be of congenital, inflammatory, or neoplastic origin. An accurate clinical assessment conducted while taking into account pertinent anatomical and developmental viewpoints, accompanied by well-planned investigative parameters, may aid in making an early diagnosis. Our is a series of three cases where in which we have described the finding of all the three cases in detail, first case is of 70 years female with right sided neck swelling which ultimately turned out to be right venous aneurysm. Second being a case of a young kid misdiagnosed as other infections and treated for long time, which ultimately responded with ATT. Lastly, a young kid presenting with multinodular goitre. We need to be ready for surprise and be ready to deal with unusual cases with different management options.

Keywords: Neck mass, Venous aneurysm, Thyroid lump, Tubercular lymphadenopathy

INTRODUCTION

The neck swellings may be broadly divided into midline swellings and laterocervical swellings. Diagnosis of the midline swellings is usually straight forward, unlike those of the laterocervical region which may be difficult. Misdiagnosis may result in inadequate treatment and functional and cosmetic sequela.¹

Depending on the tissue of origin and etiological factor involved, neck swelling is divided into multiple types. Inflammatory swellings of the neck have a vast territory. Amongst them a significant number of incidents are related to dental conditions. Though not very frequent, but still important as they mimic some of the more common causes.²

Cervical lymphadenopathy, infective or inflammatory maybe secondary to an array of odontogenic or salivary diseases of viral, and bacterial etiologies. Lymphnodes being an essential part of the body's immune system and

the first station of drainage from key points of external contact. The spectrum of etiologies varies, from a banal of infections to malignancies.³

In developing world one of the commonest granulomatous infections is tuberculosis. Commonest target organ are the lung fields, but extra pulmonary tuberculosis is not infrequent. Thoracic spine is commonest site; any age group from 1-80 years may be affected.⁴ Complications can lead to involvement of deep neck spaces causing respiratory distress, mediastinitis, carotid sheath involvement and septic shock.

CASE SERIES

Case 1

A 70 years old female patient presented with history of throbbing pain and swelling in the right submandibular region for 2 months duration. The swelling increases in size while talking, eating or any form of straining. On

examination, right internal jugular venous pulsation was more prominent than left, 2 cm above the right clavicle a soft 5×4 cm, compressible, mass found in the right submandibular region, which, became prominent on doing valsalva. No mass was palpable intra orally.

Ultrasonography was advised which revealed outpouching in the right submandibular region from a vein which is a tributary of internal jugular vein (IJV), suggestive of aneurysm.

To confirm the diagnosis and to find out exact location a CT venogram of neck was done. It revealed a 3.6×2.2 cm saccular out-pouching seen from the venous confluence of facial, retromandibular and lingual veins, just proximal to its insertion into the IJV. The lesion is seen in the right sub-mandibular region, displacing the right submandibular gland anteriorly. The right IJV was relatively tortuous and dilated as compared to left. Suggestive of internal jugular tributary-aneurysm.

Patient prepared and taken up for surgery. The aneurysm was approached through right sub-mandibular approach.

Right IJV was dilated. Tributaries connecting with IJV from the aneurysm were ligated and divided. As the upper extension was not visible and was obscured by the lower border of the mandible, opinion of otolaryngologist was taken and the right submandibular gland was excised. The venous aneurysm was adherent to the sub-mandibular gland, with distortion and adhesion of the lingual gland and tail of parotid gland. The aneurysm was removed with the gland after ligating tributaries from submandibular and sublingual vein. The tail of parotid and the sublingual glands were meticulously dissected and freed. All vital structures were preserved, wound was closed in layers over a closed drain.

Specimensent for histopathological examination which shows large fibrino-haemorrhagic area adherent with thinned out wall lined by endothelial cells revealed venous aneurysm.

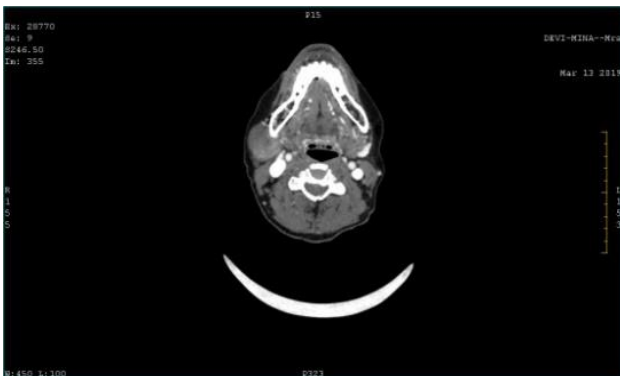


Figure 1: A saccular out pouching from the venous confluence of facial, retro mandibular and lingual vein just proximal to its insertion into the IJV, internal jugular tributaries.



Figure 2: Surgical resection of venous aneurysm.

Figure 3 shows histopathological sections of large fibrinohaemorrhagic area adherent with thinned out wall lined by endothelial cells. Feature consistent with venous aneurysm (Hematoxylin and eosin stain 10× magnification).

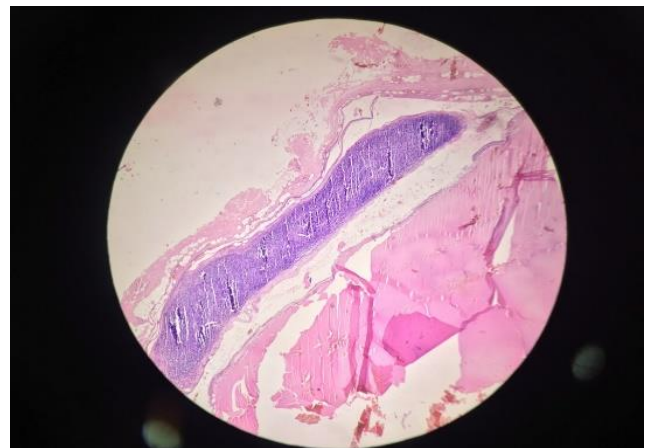


Figure 3: Histopathological sections of large fibrinohaemorrhagic area.

Case 2

A 1.5 years old male child presented to paediatric OPD with history of recurrent neck swelling since past 6 months, swelling was not associated with any fever, however it was associated with mild pain. The family gives history of multiple consultations with on and off medication for the same. Two 2 months back they presented in Paediatrics OPD and was started on 2 weeks course of antibiotics which caused the swelling to subside for a short period to reappeared after two months of treatment. The patient was subsequently referred to ENT department. On examination the swelling was 1×1 cm in size, erythematous, fluctuant, tender on touch, non-pulsatile, no impulse on crying and non-transilluminant. The child underwent incision and drainage of the abscess. The pus was sent for gram staining, AFB staining and

CBNAAT and culture sensitivity, all the investigation turned out to be negative. The abscess site later presented with non-healing ulcer with discharging sinus. Finally, the decision to start ATT was made, and the child placed on empirical ATT for last 4 weeks, presently the results are promising.

Figure 4 and 5 are showing ulcerative swelling over the left side of neck with discharging pus.



Figure 4: Ulcerative swelling over the left side of neck.



Figure 5: Ulcerative swelling over the left side of neck.

Case 3

An 11-year-old female child presented to ENT OPD with complaints of progressive neck swelling since past 3 years with stunted growth. The growth was a solitary swelling in the midline, measuring 3.8×3.5 cm. Firm, non-tender, non-pulsatile, irregular surface on palpation, moves with swallowing and protrusion of tongue. The blood parameters tested were- TSH 28.5 MIU/L, T3-3.5 ng/dl and T4-0.4 mcg/dl. Which is suggestive of hypothyroidism. No other investigations were done apart from FNAC which showed features of lymphocytic infiltration with inflammatory changes of the thyroid

parenchyma which is suggestive for Hashimotos thyroiditis. USG neck suggestive of multinodular goitre. Thyroxine supplement was started, patient referred to paediatrician for stunted growth. Presently patient is awaiting surgery and is on thyroid replacement therapy.



Figure 6: Anterior neck swelling.



Figure 7: Anterior neck swelling.

Figure 6 and 7 shows anterior neck swelling in a 11-year-old female child.

DISCUSSION

Venous aneurysm was first described by Haris in 1928. Aneurysm are seldom encountered in the veins due to the low pressure in caval system. Gender, age or localization is non-specific for the occurrence, external jugular vein (EJV) and IJV being most commonly associated. There are very few studies on aneurysmal dilatation of EJV. EJV aneurysm may be congenital and secondary (post-traumatic).⁵ Congenital aneurysm may lack elastic layer and muscle cell or may be insufficient.⁶ The most common cause of secondary aneurysm are tumours, thoracic outlet syndrome and trauma, systemic

inflammatory disease, increased pressure in the venous system are other causes related to some cardiac condition. In our case the patient also presented with venous aneurysm of right IJV, the probable cause in could be post traumatic as the patient is not a known case of any cardiac problems.

Diagnostic investigation of choice here in this case is ultrasonography and colour Doppler. Angio-CT scans, Magnetic resonance phlebography are other investigation.⁵ We performed ultrasonography and CT venogram to confirm our diagnosis, followed by histopathological study.

Tuberculosis (TB) has been a major cause of suffering and death since times immemorial.⁷ It accounts for nearly 9 million new cases and 2 million death worldwide every year.⁸ The incidence of mycobacterial lymphadenitis has increased in parallel to the incidence of mycobacterial infection worldwide. Lymph node are one of the commonest, easily diagnosable and easily treatable sites for extra pulmonary tubercular infection. Extrapulmonary tuberculosis comprise 10-50 % of all tuberculosis in HIV negative patients and about 35-80% in HIV infected patient. In all cases of TB in India only 15-20% accounts for extrapulmonary TB, nearly 40% of extrapulmonary TB has Tubercular lymphadenitis. The commonest nodes to be involved are cervical lymph node followed by mediastinal and axillary nodes.⁷ Cervical lymphadenitis also known as scrofula, may be manifestation of a systemic tuberculous disease or a distinctive clinical commodity localized to neck. Lymphadenopathy due to nontuberculous mycobacterium (NTM) is uncommonly reported from India. In NTM adenitis *Mycobacterium avium* intracellular complex is one of the commonest causative agents. TB adenitis frequently affect individuals in their second decades of life, however can affect any age.

Kent et al alleged that cervical tubercular lymphadenopathy (CTL) is the result of lymphohematogenous spread of pulmonary tuberculosis.⁹ According to Powell, this entity is a hyper reaction of lymph nodes against previous pulmonary tuberculosis. Yew et al suggested that the lung parenchyma is most common site for spread of tubercular bacilli to the cervical nodes, as the right lung and lower lobe of left lung usually drains into right lower cervical chain and right supraclavicular nodes.

Unilateral single or multiple painless lumps is seen in CTL, posterior cervical or supraclavicular region is the most common location, 1-2 months is usual duration of presentation of lymphadenopathy, wavering from 3 weeks to 8 months. In 10% of cases of CTL fistula formation can be seen. Night sweats, fever, weakness and cough can be seen in these patients in distinctive ratios. HIV positive patients are more commonly associated with these systemic symptoms, 18-42% of patients are reported with associated pulmonary tuberculosis. The

higher rate of pulmonary tuberculosis is seen in HIV-positive patients rather than HIV-negative patients.¹⁰

Suspicion is mandatory in order to diagnose CTL. An early diagnosis of tuberculous lymphadenitis can be done by precise history and physical examination by tuberculin test, fine-needle aspiration (FNA), hematological tests, molecular tests and imaging techniques, thus helps in early treatment of CTL before conclusive diagnosis is done by incisional biopsy and culture.

Thyroid disorders are one of the commonest problems in our country as well as in the world. It is seen that around 42 million persons in our country suffer from thyroid diseases. The spectrum of thyroid disease may include simple goitre, thyroiditis, adenoma, carcinoma, multinodular goitre and Graves' disease. It is seen that the incidence of thyroid nodules increases with age, and in people with iodine deficiency and radiation exposure.¹¹ Thyroid nodule is a discrete lesion within the thyroid gland that is seen in about 7-8% of population. Important causes of thyroid nodules include benign aetiology (Colloid nodule, hyperplastic nodule, follicular adenoma, non-toxic/ toxic multinodular goitre, thyroiditis, toxic thyroid adenoma) and malignant aetiology (follicular thyroid cancer, papillary thyroid cancer, medullary thyroid cancer, anaplastic cancer, lymphoma, other cancer.

Presence of the following factors such as male gender, family history, extremes of age (<20 or >70 years), history of neck irradiation, nodule >4 cm in size or the presence of any pressure symptoms, in addition to the thyroid nodule should evoke further investigation.¹² Investigations like Blood tests: TSH <0.2 m U/L indicates hyperthyroidism, TSH >4 mU/L indicates hypothyroidism, both are situations for medical therapy.

Apart from normal haematology and hormonal assessment, other measures also important like USG, FNAC, radionuclide scan, CT scan. In assessing nodule size and number ultrasonography (USG) is highly sensitive, as well as cost effective. Malignant potential is better assessed when USG is combined with Doppler: exclusively peri-nodular vascular pattern has lower threat of malignancy as compared to that of purely central vascular pattern. USG patterns that suggest malignancy: irregular shape, ill-defined borders, hypoechogenic, solidity, heterogenous internal echoes, microcalcifications, absence of a halo, an anteroposterior to transverse diameter ratio (A/T) greater than one, insinuation into regional structures and doubtful regional lymph nodes.

USG-guided FNAB with an onsite confirmation of adequate cellularity (minimum 6 group of follicles with each having 10-15 cells) by a trained cytopathologist is the investigation with the highest sensitivity and specificity.

Radionuclide scanning is important in differentiating benign and malignant nodule. When isotopes less avidly taken up leads to “cold” areas on scanning seen in most benign and malignant neoplasms. Cold nodule has 10-15% rate of malignancy, whereas hot nodules is highly unlikely to be malignant. A hot nodule imply hyperthyroidism which are usually not malignant.¹³

According to the geographical region, sex and age prevalence of goitre is different. India has the world largest goitre belt in sub-Himalayan region. It is estimated that 12 % of the adult population in India have palpable goitre. There are various Indian studies which suggest goitre to be one of the commonest causations of thyroid swelling. A study conducted by Handa et al showed incidence of goitre among thyroid nodule to be 57.6%, another Indian study conducted by Andaleeb et al showed 54.7% of thyroid swelling to be multinodular goitre. Various studies suggest the incidence of goitre to be higher in the female compared to male. The incidence of thyroid swelling is higher after 4th decades of life followed by that in the elderly. Our case is unique as the thyroid swelling observed in our study was in a young child with features of hypothyroidism and USG neck suggestive of multinodular goitre.

CONCLUSION

Head neck masses are divergent in nature of origin, they present with situations which are difficult to access clinically and in remote areas medical establishment often lack technological advances which are required in these cases to establish the diagnosis.

In majority of these cases people can't afford to get treatment in large hospitals and thus treating these cases in remote setup is a challenge itself.

In our case series we have tried to present the management done in remote setup and then bring it to the knowledge of our colleagues who are working in other difficult areas.

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