

Clinicopathological Study of Lateral Neck Swellings - A Prospective Study in CMCH (A Tertiary Care Hospital)

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Abstract: Introduction: Diagnosis of neck swellings is always been very difficult and challenging. Commonest occurring swellings are lymphoid, thyroid, salivary glands. Apart from these, Lateral neck swellings (LNS) are seen commonly in primary and secondary malignant lesions. Any neck swelling greater than 2cms has 80% chance of being malignant origin. Goitre being most common among benign and Squamous cell carcinoma in malignant. FNAC is the primary diagnostic investigation in cases of LNS.

Aims and objectives: The aim of this study is to compare the clinical and pathological diagnosis of lateral neck swellings. To find out incidence of different lateral neck swellings and to find the commonest cause of cervical lymphadenopathy in this study.

Materials and methods : The study included 30 patients who attended General surgical OPD with lateral neck swellings aged above 15 years who underwent sequence of investigations like blood counts, ESR, FNAC, Excision Biopsy

Results : In our study, we found that Tuberculous lymphadenitis was the commonest cause of lateral neck swelling followed by lymphoma, metastasis, pleomorphic adenoma, cold abscess etc.,

Key words: lateral neck swelling, FNAC, Tuberculous lymphadenitis, secondaries

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I. Introduction

Neck skin is derived from cervical dermatomes which arise from 2nd to 6th cervical regions. The sternocleidomastoid divides the neck into anterior and posterior triangles; the muscle itself is in neither triangles. The anterior triangle includes submental, submandibular, carotid, muscular triangle and posterior triangle includes greater occipital and smaller subclavian triangle.

Lymph nodes levels - most widely accepted system for describing the lymph nodes in the neck originates from the Memorial Sloan Kettering Hospital, New York and was adopted by the American Academy of Otolaryngology Head and Neck Surgery in 1991. It is designed by the surgeons and the radiologist, and divides the neck into six levels, of which I and V are paired in the lateral neck, and level VI describes midline neck nodes from hyoid to sternal notch.

Fascia layers - Fascia is investing fibrous tissue related to muscles and major neck structures. The neck has superficial and deep fascia. The deep fascia has three layers, a superficial layer, middle or visceral layer and a deep layer.

Neck swellings can be classified based on anatomical location like midline swellings, lateral swellings.

Common Lateral Swellings:

1. Lymph node swellings - benign and malignant
2. Salivary gland enlargement.
3. Thyroid enlargement.
4. Branchial cyst.
5. Lipoma.

Neck swellings in children are common but rarely malignant, frequently representing reactive lymph node enlargement. Neck lesions are responsible for a significant cause of mortality and morbidity in India. Various benign and malignant lesions are found in the neck region involving thyroid, salivary glands, lymph nodes, upper aero-digestive tract (throat), skin, soft tissues, etc. Goiter, Koch's and other chronic inflammations,

pleomorphic adenoma, various cysts and swellings of skin and subcutaneous tissues comprise the common benign and inflammatory lesion of the neck region

Malignant lesions can present as primary as well as metastasis from various organs of the body. Neoplasms of neck region are a major form of cancer in India, accounting for 23% of all cancer in males and 6% in females. The five-year survival varies from 20-90% depending up on the sub-site of origin and the clinical extent of disease. The majority of this is preventable. Tobacco and alcohol play an important role in their etio-pathogenesis.

Metastatic spread of squamous cell carcinoma, which accounts for 80% of malignant disease of the head and neck, most commonly occurs with tumours of the nasopharynx, tongue base, tonsil, pyriform fossae and supraglottic larynx. When an enlarged neck node is detected and the possibility of malignant disease suspected, it is these five primary sites that must receive careful examination and investigation.

Aim And Objective

The Purpose of this study is:-

- To Compare Clinical Diagnosis with Pathological Diagnosis of Lateral neck Swellings.
- To Find Out Incidence of Different Lateral Neck Swellings.
- To Find Commonest Cause of Cervical Lymphadenopathy in this study.

II. Materials And Methods

TYPE OF STUDY : Prospective

PERIOD OF STUDY: July 2018 To September 2019

PERIOD REQUIRED FOR DATA COLLECTION : 1 year

PLACE OF STUDY : Department of General Surgery, Coimbatore medical college and hospital, Coimbatore.

Sample size - 30 cases.

Inclusion Criteria :

All patients coming to the Surgery Out Patient Department (OPD):

- With lateral neck swellings
- Aged 15 years onwards.

Exclusion Criteria:

- Cases of recurrence with known diagnosis.
- Already diagnosed cases.
- All acute inflammatory conditions
- Age below 15 years

After proper informed consent the patients were analysed and examined and evaluated on the basis of detailed history and physical examination. Final diagnosis was made after investigations like blood, USG, X-ray, CT Scan (if necessary). Histopathological diagnosis was made after FNAC or HPE report.

III. Results

In our study of 30 patients, 10 were female and 26 were males with a female to male ratio of 1:2.

In our study the commonest age group was found to be between 21- 30 years with mean age group of my study being 35.3 years.

In our study the clinical presentation were categorized as presence of pain, fever, swelling, lymphadenopathy. We observe 26.67% had pain, 10% presented with fever, and 70% with lymphadenopathy.

In our study we observe that 60% of patients presented with a single swelling while 40% presented with multiple swellings.

In our study on clinical examination 66.67% of swellings were firm in consistency, while 13.33% were hard in consistency and cystic and soft swellings were observed.

In our study FNAC report diagnosis revealed TB lymphadenitis comprised 46.67 %, TB abscess 10 %, Squamous cell carcinoma 6.67 %, pleomorphic adenoma 6.67 %, and secondaries in neck 6.67%, Papillary CA 3.33%, Neurofibroma 3.33%, lipoma 3.33%.

In our study commonest cause of lymph node enlargement was Tb lymphadenitis 56.67%, followed by pleomorphic adenoma 6.67 %, and secondaries in neck 6.67%,cold abscess 6.67%, goitre 6.67%.Thus Tuberculous lymphadenitis was the commonest cause of lateral neck swelling in our study.

In our study clinical, histopathological diagnosis and final diagnosis correlation made and found be statistically significant according to Pearson's correlation.

Thus we conclude that in our study Tuberculous lymphadenitis as the most common cause of lateral neck swelling.

IV. Discussion

Investigations:

Fine Needle Aspiration Cytology (Fnac) :

FNAC is less expensive quick and simple method that is used to sample swellings. FNAC has become a standard and routinely practiced invasive technique. It is the first line of investigation for neck swellings. Cervical lymphadenopathy is a common clinical finding; it may be a sign of inflammation, metastatic malignancy or malignant lymphoma. Because of early availability or results, simplicity, minimal trauma and complication, the aspiration cytology is now considered as a valuable diagnostic aid and it provides ease in following patients with known malignancy and ready identification of metastasis or recurrence.

Biopsy:

The gold standard procedure for the diagnosis of a neck swelling is open biopsy of the swelling with histopathological examination of the excised tissue.

However, open biopsy of a metastatic cervical swelling prior to definitive treatment of the neck (usually by radical neck dissection) has been reported to lead a higher incidence of wound complication, regional neck recurrence and distant meta-analysis, than in patients who have no biopsy performed prior to definitive treatment. Excisional and incisional biopsy of cervical metastases results in 2-3 times increased incidence of local treatment failure when compared with fine needle aspiration cytology.

The possible adverse effects of excisional or incisional biopsy as a primary diagnostic tool in lateral neck masses has been strongly debated. In the event that the mass is a lymphoma, adenocarcinoma, sarcoma, metastasis from a primary outside the head and neck, or inflammatory node, few would argue that anything other than accelerating the diagnostic process had been achieved, even though FNAC might have avoided the need for urgent open biopsy. Metastatic squamous cell carcinoma is possibly different, and the long-term influence of open biopsy should be considered carefully. Several series of patients with metastatic squamous cell carcinoma in cervical lymph nodes have been analyzed in the search for prognostic indicators. Most series suggest that open biopsy of the metastatic node, advanced age, and nodal stages have an adverse effect on survival.

Ultrasound :

Ultrasound (USG) is the second most common method of imaging carried out in hospitals worldwide after plain-film radiography. Modern high-resolution ultrasound has excellent spatial and contrast resolution for the near field, and the development of the 3D technology, extended field of view or panoramic imaging, and colour flow and power Doppler application has led to great improvements in its diagnostic utility and accuracy. No exposure to ionizing radiation, readily available and relatively less expensive compared with Computed Tomography (CT), Magnetic Resonance Imaging (MRI), and Positron Emission Tomography (PET). Ultrasound Imaging is necessary for accurate diagnosis and assessment of the extent of a lesion's involvement prior to treatment. Ultrasound can provide reliable real time guidance for fine needle aspiration cytology (FNAC) or core biopsy, and recognition of its versatility and diagnostic accuracy has led to its routine incorporation in head and neck clinics. High-resolution ultrasound is an ideal initial imaging investigation for most neck swellings. The differential of neck swellings depends on patient's age, the anatomic location of lesion, and its appearance on ultrasound. Colour imaging is now a routine part of ultrasound examination. Systems should ideally offer high-sensitivity colour-flow imaging and power Doppler functionality. High-frequency transducers allow excellent near-field resolution, though they are not as good at visualizing deeper structures.

V. Conclusion

In our study males were commonly affected with lateral neck swelling, with mean age of 35 years. The most common cause of neck swelling was found to be lymph node enlargement. The most common cause of lymph node enlargement was found to be tuberculous lymphadenitis, followed by secondaries in neck. A proper history and thorough clinical examination along with appropriate pathological examination with necessary radiological examination can help us to diagnose the cases early and help us to manage cases in a more systematic manner.

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