

Retrospective Analysis of Fine Needle Aspiration Cytology of Peripheral Lymph Nodes

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Abstract

Fine needle aspiration cytology has become a leading cost-effective and easy investigating tool these days to diagnose various diseases. It is being used widely in manifestations of Lymph Node Diseases as compared to histopathology these days. A Retrospective Analysis of FNAC reports of peripheral lymph nodes was carried out in a teaching hospital from March 2017 to April 2019. 192 cases of Cervical Lymphadenopathy were studied. The most common pathological diagnosis was of tubercular lymphadenitis.

Keywords: FNAC, Cervical Lymphadenopathy, Tubercular Lymphadenitis, Reactive Lymph Nodes.

Introduction

The use of fine-needle aspiration cytology (FNAC) in the investigation of lymphadenopathy has become an acceptable and widely practised minimally invasive technique, which is safe, simple, rapid, and relatively pain-free. FNAC is highly cost-effective and accurate as a first-line investigative technique with differential diagnoses including reactive hyperplasia/inflammatory conditions, granulomatous disorders, and malignancy, stratifying cases requiring further investigations, surgical intervention, or clinical follow-up.

Materials & Methods

A Retrospective Analysis of FNAC of peripheral lymph nodes was carried out in a teaching hospital from March 2017 to April 2019. Age and profile were analysed. Out of the total 200 cases that presented in the cytology unit of the Pathology Department, 192 cases were of Cervical Lymphadenopathy. These cases were studied for the leading cause of this presentation. Routine FNAC had been performed by the attending pathologist. Aspiration of superficial enlarged lymph nodes was performed freehand using a 23 G needle mounted on a Cameco handle. Both air-dried and wet-fixed slides were prepared. The air-dried smears were immediately stained with Speedy-Diff (Clin-tech) and the adequacy of diagnostic material assessed. Results of FNAC were available on the day of examination.

Results

It was found that from a total number of 192 cases of cervical lymphadenopathy, 118 (61.45%) were of tubercular lymphadenitis (Tb LN), 64 (33.33%) cases were of reactive lymph nodes (RLN), and the remaining 10 (5.22%) cases were of chronic inflammatory lymphadenitis like Chronic inflammatory lymphadenitis, Non-Tubercular granulomatous

lymphadenitis and Metastatic (Table 1).

In the cases of RNL, the Male (48%) to Female (52%) ratio was almost similar with slight Female preponderance (Fig 1).

In the cases of Tubercular Lymph Nodes, Male and Female ratio was similar with Male (46%) and Females (54%) (Fig 2).

Type of Disease	No. of Cases	% of Cases
Tubercular Lymphadenitis	118	61.45
Reactive Lymph Nodes	64	33.33
Chronic Inflammatory Lymphadenitis	4	2.08
Metastatic	3	1.56
Non-Tubercular Granulomatous Lymphadenitis	3	1.56
Total	192	

Table 1: Distribution of Cervical Lymphadenopathy Cases

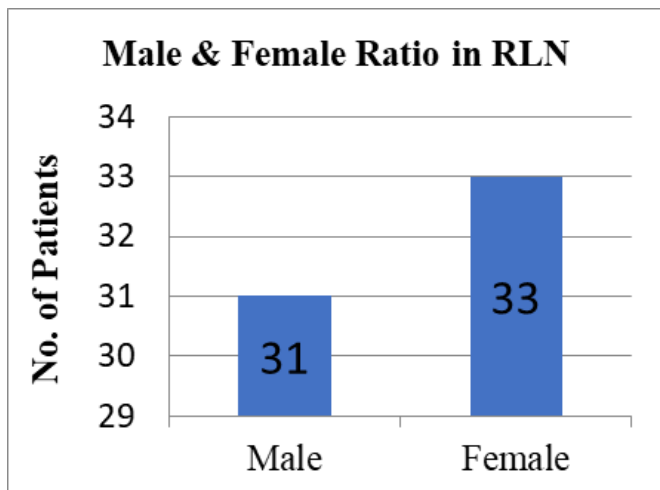


Fig 1: Sex Distribution of Reactive Lymph Node

Cases

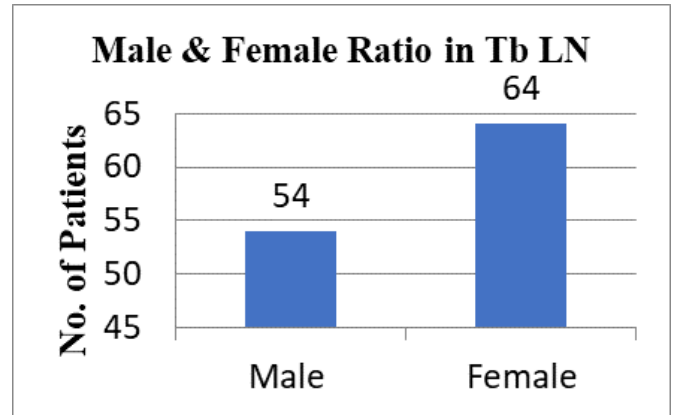


Fig 2: Sex Distribution of Tubercular Lymph Node Cases

Age group analysis in RLN presented widely in the age group of 0-10 yrs. (28 cases, 44%) with the second-highest incidence in the age group of 11-20 yrs. (26 cases, 41%) (Fig 3).

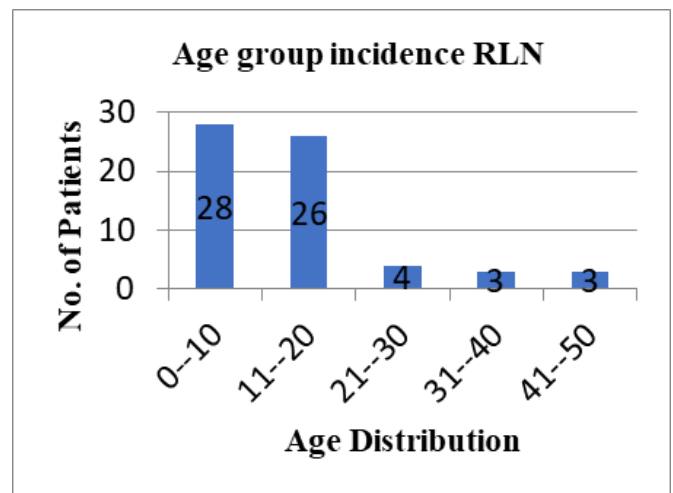


Fig 3: Age Distribution of Reactive Lymph Node Cases
Age group analysis in Tb LN presented widely in the age group of 11-20 years (52 cases, 44%) with the second-highest incidence in the age group of 21-30 years (38 cases, 32%) (Fig 4).

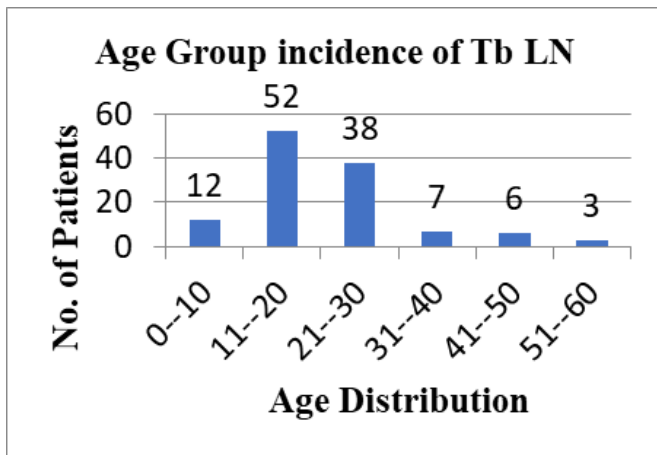


Fig 4: Age Distribution of Tubercular Lymph Node Cases

Discussion

In our tertiary care hospital, the cases presenting with Cervical Lymphadenopathy are mostly Tubercular Lymphadenitis as seen in the present study. Chand et al observed Tubercular Lymphadenitis in 57% and RLN in 35.2% patients with female preponderance in TB cases.¹ The high incidence of Tuberculosis in our setup maybe because the hospital caters to a large population of low socio-economic strata and the disease is relatively common in this area. The present study showed the maximum incidence of tubercular lymphadenitis in the 2nd decade followed by the 3rd decade of life. A similar pattern of age distribution was also seen in a study conducted by Mohapatra and Janmeja et al.² The present study found that females were affected more than the males, possibly because of the low immunity of Indian females especially those who are poor and in the reproductive age group. Palwal et al, Khajuria et al, Narang et al, Mohapatra & Janmeja et al and Chand et al also noted female preponderance in their studies.¹⁻⁵ Cervical lymph nodes were most commonly involved with solitary lymphadenopathy being the commonest presentation. Cervical lymph nodes were also found to be most commonly presented with single nodes (77%) and multiple cervical nodes

(23%).

Conclusion

To conclude cervical lymph nodes are most commonly involved in tubercular lymphadenitis in peripheral lymph nodes. FNAC is a reliable, quick, and economical investigating modality in Tubercular Lymphadenopathy. The disease was found to be more common in females and it showed preponderance in the 2nd decade of life, followed by the 3rd decade.

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