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Assessment of Spectrum of Lymphadenectomies with Histopathological Evaluation

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ABSTRACT
The primary aim of this study therefore was to examine the frequency of nodal in situ neoplasms of the ISFN type, as well as ISMCN, in an unselected pe diatric population by retrospective analysis of surgical lymph node specimens. Sections from formalin fixed, paraffin embedded blocks and stained with H and E, stains were studied in all cases. Special stains including Ziehl Neelsen, periodic acid Schiff and Gomori's methenamine silver were used where indicated. Immuno histochemistry (IHC) was performed using relevant antibodies according to the histomorphological features. Results were assessed statistically. Hodgkin lymphoma was seen in 34, non-hodgkin lymphoma in 48, follicular hyperplasia in 18, sinus histiocytosis in 12, paracortical hyperplasia in 19 and tuberculosis in 3 cases. The difference was significant ($p<0.05$). Authors found that lymph node biopsies were found to be hodgkin lymphoma, non-hodgkin lymphoma, follicular hyperplasia and sinus histiocytosis.

INTRODUCTION

While the causes of non-neoplastic lymphadenopathy are more varied and include lipid storage disorders, drug reactions (including those from certain vaccines), infections (bacterial, viral or fungal) and a wide range of non-neoplastic lymphoproliferative disorders like Castleman disease, Rosai Dorfman disease, Kimura disease, Kikuchi Fujimoto disease and systemic lupus erythematosus (SLE) the majority of neoplastic disorders are lympho-hematogenous malignancies and metastases[1-2]. The term "lymphadenopathy" refers to aberrant lymph node size or structure. It is an issue that affects people of all ages[3]. It is primarily brought on by benign conditions and occasionally results from malignant disorders. It exhibits transitory reactions to both local and systemic infections. Age, lymphadenopathy location, length of illness, whether localised or widespread and additional symptoms like fever and splenomegaly are all taken into account in studies[4]. While lower limb nodes (popliteal, inguinal, or femoral) are more likely to result in a definitive diagnosis, upper body nodes (cervical, supraclavicular axillary) are biopsied more frequently because they are more likely to produce nonspecific reactive or chronic inflammatory and fibrotic changes[5]. It has been shown that the incidence and prevalence of ISFN in the adult population are low[6-8]. In a similar vein, Adam *et al.* describe ISMCN as an extremely unusual phenomenon[9]. While it is anticipated that ISFN and ISMCN will be extremely uncommon in the paediatric population, this has not previously been thoroughly investigated. Therefore the main goal of this study was to use retrospective analysis of surgical lymph node tissues to investigate the frequency of nodal in situ neoplasms of the ISFN type as well as ISMCN in an unselected pe diatric population. The other goal was to more closely classify the reactive lymph node changes seen in light of the thorough investigation required to rule out (incidental) in situ neoplasms.

MATERIALS AND METHODS

The present study was conducted in the department of general surgery. It comprised of 114 lymph node biopsies of both genders. Ethical approval for the study was obtained before starting the study. Sections from formalin fixed, paraffin embedded blocks and stained with H and E, stains were studied in all cases. Special stains including Ziehl Neelsen, periodic acid Schiff and Gomori's methenamine silver were used where indicated. Immuno histochemistry (IHC) was performed using relevant antibodies according to the histomorphological features. Results were assessed statistically. $p<0.05$ was considered significant ($p<0.05$).

Table 1 Distribution of patients

Total-124

Gender	males	females
No.	108	16

Table 2 Distribution of different types of lesions on lymph node biopsy

Type	No.	P-value
Hodgkin lymphoma	34	0.05
Non-hodgkin lymphoma	48	
Follicular hyperplasia	18	
Sinus histiocytosis	12	
Paracortical hyperplasia	19	
Tuberculosis	3	

Table 3 Clinical features in patients

Clinical features	No.	p-value
Cough	74	0.01
Fever	47	
Weight loss	82	
Night sweat	34	
Lymph node pain	60	
Splenomegaly	17	

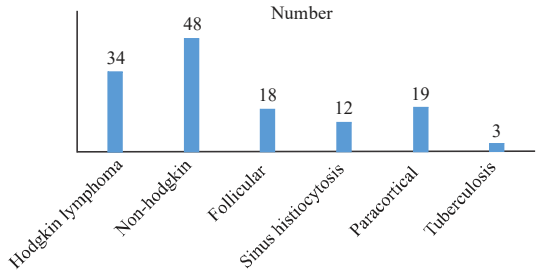

Fig. 1: Different types of lesions on lymph node biopsy

RESULTS

Table 1 reveals that 108 of the 124 cases included men and 16 involved women. Table 2 reveals that 34 patients had Hodgkin lymphoma, 48 had non-Hodgkin lymphoma, 18 had follicular hyperplasia, 12 had sinus histiocytosis, 19 had paracortical hyperplasia, and 3 had tuberculosis. There was a substantial difference ($p<0.05$). Table 3 lists the clinical characteristics of 74 patients with cough, 47 with fever, 82 with weight loss, 34 with night sweats, 60 with lymph node pain and 17 with splenomegaly. There was a substantial difference ($p<0.05$).

DISCUSSIONS

The "gold standard" for diagnosis is still lymph node excision biopsy, even if fine needle aspiration cytology is frequently utilised to determine the etiological diagnosis. For a better approach to lymphadenopathy, doctors should take into account the patient's circumstances the degree of referral and the epidemiologic background of that area[10]. The indications for a lymph node biopsy are not entirely apparent, they rely on the opinion of the physician and should be carried out taking into account the clinical characteristics, patient conditions and epidemiologic data regarding the various causes of

lymphadenopathy[11]. The goal of the current investigation was to assess the lymphadenectomy's histological spectrum.

Of the 114 cases in the current study, 103 involved men and 11 involved women. We discovered that 32 patients had hodgkin lymphoma, 46 had non-hodgkin lymphoma, 16 had follicular hyperplasia, 10 had sinus histiocytosis, 18 had paracortical hyperplasia, and 2 had tuberculosis. Neoplastic lesions were more common, according to Roy *et al.*[12]. Of these, 53% (535 cases) had neoplastic lesions, of which 32.1% (324 cases) were non-Hodgkin lymphomas, 12.4% (125 cases) were Hodgkin lymphomas and 8.5% (86 cases) were metastatic lesions. 18% (182 cases) of tuberculous lymphadenitis, 6.8% (69 cases) of other reactive or specific lymphoid hyperplasia, 0.6% (6 cases) of other granulomatous lesions and 21.6% (218 cases) of non-specific reactive lymphoid hyperplasia were among the 47% (475 cases) of non-neoplastic lesions.

We discovered that the clinical characteristics included splenomegaly in 15 patients, fever in 45, weight loss in 80, night sweats in 32, cough in 72 and so on. There were 208 specimens, 110 men (52.9%) and 98 women (47.1%), according to Zahir *et al.*[13] 32.94 years was the mean age. There were 130 cases (62.5%) of reactive lymphadenopathy, 45 cases (21.6%) of malignancy and 33 cases (15.9%) of infectious illnesses. Reactive lymphadenopathy was the most prevalent histopathologic finding across all age groups. Pathologic findings and clinical indications and symptoms were significantly correlated. When deciding whether to perform a lymph node biopsy, doctors should consider the patient's symptoms and signs, particularly the B signs the lymph node's size (more than 2 cm) generalised lymphadenopathy, lymph node mobility and splenomegaly. According to this study, in 75% of the cases the choice to have a biopsy was the right one.

In the study conducted by Roy *et al.* [12], 331 lymph node samples were examined. The range of ages covered was 4 to 81 years, with a male to female ratio of 1: 4. The majority of patients (80.06%) had non-neoplastic lesions, whereas 19.93% of cases had neoplastic lesions. The most common non-neoplastic result was reactive lymphadenitis, which was followed by granulomatous lymphadenitis. 16.31% of cases of metastatic lesions and 3.61% of cases of lymphoma included neoplastic lesions[13]. Our investigation offers intriguing data on the distribution of reactive lymph node alterations in

CONCLUSION

Reactive lymph node changes had a wide range, and their heterogeneous distributions may have been caused by regional differences in catchment area, geography, demography, season and year, respectively. Therefore the current study's results support the need for a thorough work-up to rule out treatable infectious or inflammatory alterations that may have caused the observed reactive changes in paediatric lymph node samples without overt infiltration by malignant lymphoma. Authors found that lymph node biopsies were found to be hodgkin lymphoma, non-hodgkin lymphoma, follicular hyperplasia and sinus histiocytosis.

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