# Immunohistochemical Study of Tuberculous Lymphadenitis

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**Background**

Diagnosis of tuberculous lymphadenitis on the basis of clinical finding in combination with Fine

Needle Aspiration Cytology (FNAC) of the lymph node aspirate or hematoxylin-eosine staining of the lymph node biopsy is common in practice. Additional staining of the specimen by Ziehl- Neelson (Z-N) stain may provide a step toward better diagnosis of the cases. Use of alternate method for the diagnosis of tuberculous lymphadenitis may be essential, thus immunohistochemical staining of the lymph node biopsies in combination with Z-N stain may yield a better diagnosis specially in case of lymph node tuberculosis. Study of the immunological changes like effect on T cells/ B cells/ on the lymph nodes during the infection period could be useful in early diagnosis of tuberculous lymphadenitis. Keeping all these factors in mind, this work has been planned to evaluate the efficiency of immunohistochemical staining in the diagnosis of tuberculous lymphadenitis.

**Methods**

This study was conducted at Patan hospital, during September 2002 to March 2003. Altogether, 40 biopsies collected at Department of Pathology, Patan Hospital were further analyzed. 40 biopsy specimen were stained with Haematoxylin - Eosin stain and Acid fast stain where as 20 biopsies were stained with CD3/ CD20/ S-100 stains respectively and the biopsy cell/tissue features were analyzed.

**Results**

Among 40 cases of suspected tuberculous lymphadenitis cases, 100% cases showed tuberculosis positive in Haematoxylin-Eosin stain. Whereas Acid Fast Bacilli could be detected in only 10% of the cases. Greater prevalence of tuberculous lymphadenitis was observed between 20-30 years of age with higher percentage of female’s involvement. Frequency of Cervical and axillary nodes involvement were higher than other. In 57.5% of cases, right cervical nodes and in 20% of the cases, axillary nodes were found involved. Multiple nodes involvement was observed in 80% of the cases and bilateral nodes in only 20% of the cases. CD3 cells were present in higher numbers than CD20 cells. CD3 cells were confined to paracortical areas where as higher CD 20 cells were found in follicular area. But due to migratory nature of CD20 cells, they were also found in other parts of lymph nodes.

**Conclusions**

Immunohistochemical staining techniques, though specific, H-E staining and AFB staining in combination still remains a method of choice for the diagnosis of tuberculous lymphadenitis, in developing country like Nepal, because of cost benefit and availability of immunohistochemical staining reagents.

**Keywords:** biopsies; immunohistochemical; lymphadenitis; nodes; staining; tuberculosis.