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**FLOW CYTOMETRIC DIAGNOSIS OF NON-HODGKIN'S LYMPHOMA USING
FINE NEEDLE ASPIRATION AND FRESH TISSUE BIOPSY MATERIAL- A PILOT
STUDY**

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OBJECTIVES

1. To study the fine needle aspiration, touch imprints and /or scrape smears made from fresh lymphoid tissue biopsies/ aspirates using conventional Romanowsky and histochemical stains.
2. To identify abnormal cell population and to evaluate their immunophenotype using flow cytometer in material obtained by FNAC or single cell suspensions made from fresh biopsy tissue.
3. To classify Non-Hodgkin's lymphomas as per WHO classification.
4. To correlate with histopathology on paraffin embedded tissues.

METHODOLOGY

The prospective study was done between Jul 2010 to Aug 2012. The study population included all cases reporting with lymphadenopathy at the institute with the following FNAC/ touch imprint diagnosis: NHL, Atypical proliferation of lymphocytes, suspicious cases of NHL. Out of 744 cases reporting during the study period, 57 cases were selected for flow cytometric immunophenotyping based on their FNAC/ touch imprint cytological features. Four out of these were lost to follow up. Rest 53 cases were followed up for their final histomorphological-immunohistochemistry diagnosis.

RESULTS

Out of the 49 cases, 42 fell in NHL group, 3 turned out to be Hodgkin's lymphoma and remaining 4 cases were diagnosed as reactive lymphadenitis. Among 42 cases of NHL, 83.33% belonged to B-NHL group and 16.66% belonged to T-NHL group. Among B-NHL, DLBCL was the commonest subtype forming 34% of cases. With cytology-flow cytometric immunophenotyping the study found 86.70% sensitivity in picking up of lymphoma cases.

CONCLUSION

C-FCI is a valid and accurate diagnostic technique, especially in NHLs in which it also allows for their sub classification. It is faster than histopathologic studies. It is however not a suitable technique for diagnosing TCRBCL or HL. C-FCI also has

other limitations: variability in antigen expression and cellular weakness during processing, among others. Because of these limitations, at present, centres with both the diagnostic tools should use C-FCI as a complementary method to histopathological study of the tissues as of now till further technical advancements occur.