

**COMPARATIVE ASSESSMENT OF BONE MARROW ASPIRATION
(CYTOLOGY) AND BONE MARROW BIOPSY IN LYMPHOID
NEOPLASMS**

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ABSTRACT

BACKGROUND AND OBJECTIVES:

Bone marrow aspiration and biopsy forms an essential diagnostic modality in patients with lymphoid malignancy. The aim of our study is to study the spectrum of clinical presentation and microscopic features of bone marrow aspiration and bone marrow biopsy. And to also assess the diagnostic accuracy of the above-mentioned modalities with the gold standard being flow cytometry.

METHODOLOGY:

All the bone marrow aspirations and bone marrow biopsies were received in pathology laboratory of SDM College of Medical Sciences and Hospital, Dharwad during the study period from 1st October 2019 to 30 September 2021. A total of 80 bone marrow aspiration and biopsy samples were collected. For 52 samples, flow cytometric correlation could be done.

RESULTS:

In our study a total of 80 cases had undergone both bone marrow aspiration and bone marrow biopsy. The study had male preponderance with 51 male patients and 29 female patients with most common age group being 21-40 years. They presented with generalized weakness, fever and on examination majority of the cases were having generalized lymphadenopathy followed by splenomegaly and hepatomegaly. Bone marrow aspiration and biopsy was done and the results showed 100% concordance. Most common diagnosis obtained was acute lymphoblastic leukaemia with 52 cases, 10 cases of multiple myeloma, 9 cases of lymphoproliferative disorder, 7 cases of

acute leukaemia and 2 cases of chronic lymphocytic leukaemia. 52 cases had further undergone flow cytometry analysis and acute lymphoblastic leukaemia showed 100% sensitivity, 63.63% specificity, 91.1% positive predictive value, 100% negative predictively value and diagnostic value of 92.3%.

CONCLUSION:

Bone marrow aspiration cytology and bone marrow biopsy together form an important diagnostic tool of lymphoid malignancy where the two act in complementary way to each other. The aspiration aids in understanding the morphology of the neoplastic cells where as the biopsy contributes in knowing the extent and pattern of the neoplasm. Flow cytometry- an ancillary investigation acts as gold standard and helps in further better categorization of the disease.

KEYWORDS: Bone marrow aspiration; Bone marrow biopsy; Flow cytometry; lymphoid neoplasms.