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Bone marrow examination – Evaluating indications & diagnostic yield at a tertiary care hospital in Northern Province, Sri Lanka

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Introduction Bone marrow examination is an invaluable haematological investigation for evaluating many clinical conditions where it provides key diagnostic information.

Objectives To evaluate the indications and diagnostic yield of bone marrow examination in a tertiary care hospital in Northern Province, Sri Lanka

Methodology A descriptive retrospective audit was conducted on all bone marrow biopsies performed and reported at Teaching Hospital-Jaffna from January 2017 to December 2019. Permission to retrieve data was obtained from the Director, Teaching Hospital-Jaffna. Data were retrieved from the database maintained at the Haematology Unit. Statistical analysis was performed using SPSS software (version 25.0)

Results A total of 857 bone marrow examinations were performed during the three year period. The male to female ratio was 1:1.04. Age ranges was from 1 to 86 years with a mean of 53 years (SD+/- 20.5). The common indications for bone marrow examination were unexplained cytopenia(33.0% n= 283), suspected haematological malignancies (27.9% n=239) and plasma cell neoplasm (17.3% n= 148). Of the total, 8% (n=68) were performed to assess the response after treatment of haematological malignancies. With respect to bone marrow examination findings, 21.8% (n=187) were normal active marrow and 70.2% (n=602) had pathological conditions. Of the latter, 41.8% (n=358) were malignant haematological conditions and 27.5% (n=236) were nonmalignant haematological conditions. Acute leukaemia(10.5% n=90) was the commonest haematological malignancy, followed by plasma cell neoplasm(8.52% n=73) and chronic myeloproliferative neoplasm(8.40% n=72). The commonest acute leukaemia identified was Acute Myeloid Leukaemia (n= 64).

Conclusion Bone marrow examination plays a pivotal role in diagnosing malignant and non-malignant haematological conditions.