

15.3 Lymph Node and Tissue Biopsies

Principle

High-quality sections for routine light microscopy are necessary, but not always sufficient, for the interpretation of lymph node or bone marrow biopsies. Immunophenotypic and genetic studies are often required for the proper diagnosis and classification of a hematopoietic neoplasm. Adequate fixation and timely and appropriate technical handling of the tissue are, therefore, even more important than with other specimens.

A Gross Examination and Specimen Processing

Once a resected lymph node specimen is received, its size, shape and capsule situation will be described. It will then be transversely sliced into uniformly 3mm-thick sections. The cut surface will be examined carefully and the gross appearance documented in detail. Then at least 2 representative sections will be submitted for routine fixation immediately (See Figure 15.2). Bone marrow trephine core biopsies will not be sectioned unless actual bone marrow tissue is 1 cm in length. See Bone Marrow Biopsy Flow Chart (Figure 15.1).

15 HEMATOLOGY

15.1 Instrumentation

The CELL-DYN 3700CS System will be used routinely at JCML. It is a multi-parameter, automated hematology analyzer with a manual Closed Sampler designed for in vitro diagnostic use in clinical laboratories. (See Appendix D).

15.2 Procedures

The CELL-DYN 3700CS System generates the following hematologic measurements on EDTA-anticoagulated whole blood:

WBC - White Blood Cell or Leukocyte count
NEU - Neutrophil absolute count
%N - Neutrophil percent
LYM - Lymphocyte absolute count
%L - Lymphocyte percent
MONO - Monocyte absolute count
%M - Monocyte percent
EOS - Eosinophil absolute count
%E - Eosinophil percent
BASO - Basophil absolute count
%B - Basophil percent
RBC - Red Blood Cell or Erythrocyte count
HGB - Hemoglobin concentration

HCT - Hematocrit
MCV - Mean Corpuscular Volume
MCH - Mean Corpuscular Hemoglobin
MCHC - Mean Corpuscular Hemoglobin Concentration
RDW - Red Cell Distribution Width
PLT - Platelet or Thrombocyte count
MPV - Mean Platelet Volume
PDW - Platelet Distribution Width
PCT - Plateletcrit
RETIC % - Reticulocyte Percent
RETIC ABS - Reticulocyte Absolute
IRF - Immature Reticulocyte Fraction

In addition, Wright's-stained peripheral blood smears will be made routinely for use as a back-up in the evaluation of peripheral blood morphology.

Figure 15.2- Flow Chart for Processing of Lymph Node and Tissue Biopsies