Alberta Health Services

Laboratory Bulletin

Date: December 18, 2014

To: South Zone Physicians

From: Dr. M. Greeff, Pathologist CRH Laboratory

Re: Optimal Diagnosis of Lymphoma Involving Lymph Nodes and Extranodal Soft Tissue at the Chinook Regional Hospital

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1. The accurate primary diagnosis of lymphoma is a complex process requiring assessment of architecture, cell detail, molecular studies and immunophenotype. The latter can be in the form of tissue immunohistochemistry and/or flow cytometry. Histologic subclassification and a specific diagnosis is important to determine optimal treatment and prognosis. These issues are especially important in "younger" patients.

   The "management" of de novo diffuse large B-cell lymphoma compared to the same neoplasm arising from a follicular lymphoma is different. The latter has a worse prognosis and frequently requires a bone marrow transplant in the future whereas the former is often curable. A diagnosis of B-cell lymphoma (NOS) is unsatisfactory and the diagnosis of some low grade B-cell lymphomas, T-cell lymphomas and Hodgkin lymphoma can be very difficult on limited material e.g. needle core biopsy. Assessment of grade e.g. follicular lymphoma and various prognostic features requires an adequate incisional biopsy or excision of the entire lymph node. These parameters can often not be evaluated on a needle core biopsy and/or FNAB.

2. Hematopathologists at the B.C. Cancer Agency in Vancouver (Dr. M. Hayes) and Calgary Laboratory Services (Dr. I. Auer), and medical oncologists at the Tom Baker Cancer Centre (Dr. D. Stewart) all strongly recommend a good sized incisional or excisional biopsy for the primary diagnosis of lymphoma when the site is reasonably accessible e.g. neck, axilla, groin. These same physicians strongly discourage needle core biopsies and/or FNAB in this setting.

3. Situations where needle core biopsy and/or FNAB can be considered is recurrent lymphoma, staging after diagnosis, inaccessible sites e.g. intrathoracic and intra-abdominal lesions, deep soft tissue, morbidly obese patients, frail and severely ill patients and/or patients with comorbidities precluding open biopsy/surgery, lymphadenopathy associated with local infection and "low" index of suspicion. These procedures are performed in Radiology.

   An FNAB composed only of aspirated material and no solid tissue is always suboptimal. If flow cytometry demonstrates light chain restriction, limited comments such as "atypical lymphoid infiltrate with an expanded population of monoclonal B-cells" or "suggestive of lymphoma" should be used and an appropriate biopsy recommended. In exceptional cases, a cell block can also be prepared.

   If a FNAB is being performed as a diagnostic procedure, then both aspirated material for cytology and 3 cores of tissue are needed. The cores are used for flow cytometry, cytogenetics and routine processing (formalin fixed, paraffin embedded tissue) respectively. Touch imprint smears are also prepared from the tissue submitted for routine processing.

4. Therefore, excluding the situations described in section 3, all other patients where there is a moderate to high index of suspicion for lymphoma should be referred to a general surgeon for an open incisional or excisional biopsy. These procedures should ideally be performed at the Chinook Regional Hospital and generous biopsy material sent fresh to the Laboratory for the special lymphoma protocol.

Inquiries and feedback may be directed to:
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