CORRESPONDENCE

Fine-Needle Aspiration Biopsy of Mesenchymal Lesions: The Value of Clinicoradiologic Correlation and the Importance of Histogenetic Subtyping

To the Editor—We read with great interest the editorial by Ryan1 entitled "Cytology and Mesenchymal Pathology: How Far Will We Go?" Although we agree with many of the assertions of the author, we believe that misconceptions persist within the cytopathology literature about the utility of fine-needle aspiration biopsy (FNAB) and its therapeutic implications.

At our institution, we routinely perform FNAB on accessible soft tissue and bone lesions, with the exception of large, deeply seated fatty tumors in which the differential diagnosis is lipoma vs well-differentiated liposarcoma, because diagnosis of the latter may require extensive sampling. We maintain a mobile FNAB cart containing Diff-Quik stain for immediate assessment, 95% ethanol for subsequent Papanicolaou staining, glass slides, syringe and syringe holder, and a double-headed microscope. On notification of an eligible patient for FNAB, the cart is taken to the patient's room accompanied by a cytotechnologist and a pathologist. Radiographs, including plain films, computed tomography scans, and magnetic resonance imaging results, if available, are reviewed. Pertinent clinical data are retrieved. Immediately following FNAB, a portion of the sample is screened using Diff-Quik stain, and a preliminary interpretation is given. If necessary, a second or third FNAB may be performed to obtain specimens for additional slides, cell blocks (essentially, a small histologic specimen), or ancillary studies (eg, flow cytometry, electron microscopy, cytogenetics). Aside from the obvious advantages of speed, decreased patient discomfort, and reduced cost, FNAB performed in this fashion helps exclude nonmesenchymal lesions, such as metastatic carcinoma, lymphoma, melanoma, or even gouty tophus.2 Should the preliminary interpretation be sarcoma, consultation may be promptly obtained with a hematologist-oncologist or radiation oncologist.

It is worth pointing out that significantly lacking from the editorial by Ryan1 and much of the cytopathology literature is the importance of clinical and radiologic correlation. Pathologists with training in musculoskeletal tumors readily acknowledge the invaluable information provided by radiographs. Perhaps, herein lies the problem. Many prominent persons with such training have been reluctant to embrace FNAB as a reliable diagnostic tool for mesenchymal tumors.3,4 Seventy-five years ago, the famous Dr Ewing stated, "The gross anatomy (as revealed in radiographs) is often a safer guide to correct clinical conception of the disease than the variable and uncertain nature of a small piece of tissue."5

By using FNAB, we routinely give accurate diagnoses for benign and malignant bone and soft tissue tumors.6-9 Usually we are able to subclassify tumors into specific histologic subtypes (eg, synovial sarcoma, rhabdomyosarcoma, osteosarcoma). Sometimes, this requires ancillary studies such as immunohistochemistry or cytogenetic analysis. By using the latter technique, we have successfully confirmed cases of synovial sarcoma and Ewing's sarcoma. To be certain, limitations to FNAB do exist (eg, lipoma vs well-differentiated liposarcoma). However, persons less familiar with the technique should be aware of the ancillary studies available to confirm a diagnosis. Although the prognostic necessity of subclassifying pleomorphic sarcoma is certainly arguable, we emphatically disagree with the rather outdated notion that histogenetic type does not influence treatment. Such a notion seems to be widespread in the pathology literature despite its abandonment in the clinical literature.10 Indeed, at our institution and among many other national and international cooperative groups, specific and unique treatment protocols exist for rhabdomyosarcomas, Ewing's sarcomas, osteosarcomas, and chondrosarcomas; furthermore, for patients not enrolled in clinical trials, specific noninvestigational, potentially curative chemotherapy regimens exist for Ewing's sarcomas, rhabdomyosarcomas, and osteosarcomas. Synovial sarcomas, clear cell sarcomas, epithelioid sarcomas, and alveolar soft part sarcomas are treated as a separate group. Some of these therapeutic protocols call for surgical intervention alone or in combination with preoperative chemotherapy (bearing in mind that specific drugs and dosages also vary among protocols), postoperative chemotherapy, or radiation therapy.

The approach to the diagnosis of mesenchymal tumors should be multidisciplinary. Only by considering all available information, including morphologic and clinical features and radiologic findings, can the pathologist give a consistently accurate diagnosis, recognizing that limitations do exist. To ensure appropriate therapy, when possible, histologic subtyping of bone and soft tissue sarcomas should be attempted.

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REFERENCES