Diagnosis of Chondroid Lipoma by Fine-Needle Aspiration Biopsy

To the Editor.—We read with interest the report by Yang et al.1 concerning chondroid lipoma (CL). As stated by the authors, this is a recently described entity with very few cytologic descriptions. Recently, we had the opportunity to study fine-needle aspiration biopsy material from a case of CL and would like to compare our findings with those reported previously.2-3

The patient presented with a nodular, 4-cm, subcutaneous lesion in the leg. Smears were hemorrhagic with myxoid material and occasional metachromatic, fibrillar, chondromyxoid stromal fragments (Figure 1) and clusters of multivacuolated lipoblast-like cells (Figure 2). The lesion was interpreted as a “low-grade, mesenchymal lesion,” and a benign adipose tumor was suggested as the most likely diagnosis. At that time, we did not consider the possibility of CL. Instead, a lipoma with myxoid degeneration and/or spindle cell areas was considered. Fine-needle aspiration was followed by surgical excision of the lesion, which showed typical features of CL. Since the lesion was superficial and well-defined, no imaging studies were performed.

In the report by Yang et al,1 fine-needle aspiration allowed a specific preoperative diagnosis of CL. The diagnosis was histologic rather than cytologic because it was performed after obtaining a cell block that also permitted immunohistologic studies. However, their cytologic description shows similarities to ours and to those of Gisselson et al.2 and Thomson et al.3 All 4 cases shared lipoblast-like cells, mature fat fragments and adipocytes, and variable presence of myxoid and chondromyxoid stroma. On histology, CL may show quantitative variation in the areas of chondroid differentiation and multivacuolated lipoblast-like cells. Obviously, this histologic variability is also reflected on cytology.

In our case, the myxoid areas predominated over the chondroid areas and were responsible for smears with considerable myxoid substance. Therefore, smears could be classified as belonging to the category of myxoid soft tissue lesions. This category includes a wide spectrum of lesions that can be subclassified according to other cytologic and clinical findings. What remains to be established is whether the presence of occasional chondromyxoid stromal fragments and multivacuolated adipose cells (lipoblast-like) suggests a correct cytologic diagnosis.

In at least 2 cases,2,3 the possibility of a malignant lipomatous tumor could not be excluded. In both cases, the tumors were deeply located, adding to the difficulty of recognizing the lesions as benign. Since the cytologic image of CL can be confusing, the clinical presentation seems of greatest importance in establishing the benign or malignant nature of the lesion. Smears may mimic those of myxoid liposarcoma, and the pathologist can be influenced by large, deeply located tumors. In these cases, it seems problematic to expect a confident diagnosis of benignity from cytology.

José A. Jiménez-Heffernan, MD, MRCPath
Pilar González-Peramato, MD, PhD
Cristian Perna, MD
Department of Pathology
University Hospital
19002 Guadalajara, Spain

Figure 1. Fragments of metachromatic fibrillary stroma with a moderate number of oval to spindle cells. No capillaries are seen (Diff-Quik, original magnification ×100).

Figure 2. Aggregates of multivacuolated, lipoblast-like cells were a common finding (Diff-Quik, original magnification ×150).

In Reply.—I agree with Jiménez-Heffernan et al that chondroid lipoma can have a spectrum of cytomorphology reflecting histomorphology similar to many other soft tissue tumors. In fact, their experience further indicates the importance of obtaining a cell block in fine-needle aspiration biopsy.

The common features described in all cases of chondroid lipoma published thus far include lipoblast-like cells and chondromyxoid matrix.2,3 However, a definitive diagnosis of chondroid lipoma based solely on the cytomorphology is next to impossible, bearing in mind that several malignant soft tissue tumors can share or mimic these cytomorphologic features. Histomorphology, therefore, remains as the gold standard for a definitive diagnosis.

Thus, it cannot be overemphasized that a concerted effort should be made to obtain a cell block during a fine-needle aspiration biopsy. While being the least invasive biopsy procedure, fine-needle aspiration can provide not only the diagnostic cy-

tomorphology, but also possibly diagnostic histomorphology. In addition, ancillary studies, including immunochemistry stains, can be performed on cell blocks and furnish very valuable and critical evidence for a definitive diagnosis.

YI JUN YANG, MD, PhD
Department of Pathology
New York-Presbyterian Hospital
Weill Medical College of Cornell University
New York, NY 10021