Both fine needle aspiration (FNA) and needle core biopsy (NCB) are widely accepted methods for obtaining diagnostic material.

There is variability in how different institutions use these techniques in assessing liver masses. NCB has replaced FNA in many institutions for the diagnosis of liver masses. At our institution, FNA is followed by concurrent NCB.

The aim of this study is to compare the diagnostic accuracy and tissue quality between FNA and NCB; and create a cost-effective algorithm for evaluating liver masses.

Materials/Methods

A database search was performed to detect all liver FNA cases and their corresponding NCB between January 2014 and August 2016.

A retrospective chart review was performed to gather pertinent information including age, race, gender, clinical history, lesion characteristics including unifocal versus multifocal, numbers of FNA passes and the pathologic diagnosis.

Results

Seventy-seven FNA and 68 corresponding NCB were reviewed from 74 patients. Diagnoses in the 74 patients included 36 hepatocellular carcinomas (HCC), 29 metastatic malignancies (MET), 5 poorly differentiated carcinomas (PDC), 2 benign lesions (BEN) and 2 cholangiocarcinomas (CHO) (Figure 2).

The mean age, number of FNA passes, number of slides stained with Diff-Quick and PAP were similar among the above five groups. More immunohistochemical studies (p<0.05) were performed on NCB tissues than FNA tissues in HCC (mean no. 2.1 vs 0.8), MET (2.5 vs 0.5), and PDC groups (11.2 vs 2).

False negative rate (FNR) of NCB was lower (p<0.05) than that of FNA in HCC group; and FNR of NCB was higher (P<0.05) than that of FNA in MET group (Table 1).

Conclusion

For HCC, NCB usually has better tissue quality and diagnostic accuracy than FNA; however, for metastatic lesions in the liver, FNA has better diagnostic accuracy than NCB, although NCB can provide more tissues for ancillary testing and has better diagnostic quality.

References