Assessment of Diagnostic Sufficiency, Specimen Handling, and Ancillary Studies: A Lesson from a Pathologist

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Introduction

Technical advances of endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) have improved cellular acquisition from the pancreas lesions. Several issues arose and overcoming methods have been introduced that endosonographers should understand for improvement of diagnostic accuracies from EUS-FNA specimens.

Assessment of Diagnostic Sufficiency

EUS-FNA specimens contain a lot of gastrointestinal epithelial cells from the stomach or the duodenum as contaminants regardless of cellular acquisition from pancreatic target lesions. Endosonographers may have wrong impression about acquiring many cells from target lesions. Therefore, cytologic evaluation of onsite cytopathologists with Diff-Quik stained slides may be helpful to reduce those wrong impression.

Specimen Handling

Bloody smears prohibit accurate cytologic evaluation of EUS-FNA specimens; therefore excessive use of suction should be prohibited. Similarly, air-dried cells stained with Papanicolaou staining make blurring images of cytologic details (also known as dry artifacts). Rapid soaking of smeared slides in fixative solution can prevent dry artifacts. Cystic fluid from pancreatic cystic lesions contains less cellular contents than pancreatic solid masses. Specimen collection after spinning down with centrifuge of cystic fluid can enrich cellularity of the specimens containing cystic fluid.

Ancillary Studies

Ancillary immunocytochemical staining can improve diagnostic accuracies. Therefore, preparation with additional unstained ethanol-fixed slides or cell blocks may enhance accuracy of the diagnosis with the help of immunocytochemical staining. Demands for molecular analyses with EUS-FNA specimens are also increasing.
Conclusions

Understanding of these issues and overcoming methods may be helpful for preparation of better quality of cytology slides from EUS-FNA specimens.

References