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The diagnostic performance of cellblock in combination with cytology by endoscopic ultrasound-guided fine needle aspiration in intra-abdominal mass lesions

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Background: Endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) with cytological analysis is widely used for tissue acquisition of intra-abdominal mass; however, it can be challenging when differentiating types of malignancy is needed due to limited tissue quantity. Cellblock preparation offers histologic assessment, but the data on its usefulness are scarce. Objectives: To assess the diagnostic accuracy of combined cytology and cellblock obtained from EUS-FNA. Methods: Patients with intra-abdominal mass undergoing EUS-FNA were identified. Both cytology and cellblock
Abstract

specimens were reviewed by a gastrointestinal cytopathologist. 

**Results:** A total of 166 patients were recruited. Of these, 75% had malignancy and 25% had inflammatory/reactive lesions. The mean size of lesions was 2.5 cm. Specimen adequacy was 79% for cytology and 78% for cellblock. Cytology had sensitivity of 68.5% (95% confidence interval [CI], 58.9–77.1), specificity of 95.7% (95% CI, 78.1–99.9), positive predictive value (PPV) of 98.7% (95% CI, 92.7–00), and negative predictive value (NPV) of 39.3% (95% CI, 26.4–53.4) with area under the receiver operating characteristic curve (AUROC) 0.821 (95% CI, 0.744–0.882). Cellblock had sensitivity of 65.4% (95% CI, 55.2–74.5), specificity of 96% (95% CI, 79.6–99.9), PPV of 98.5% (95% CI, 92–100), NPV of 40.7% (95% CI, 26.4–53.4) with AUROC 0.807 (95% CI, 0.727–0.872). The diagnostic performance of combined cytology and cellblock was superior to either one alone ($P < 0.05$) as demonstrated by an improvement of sensitivity to 74.6% (95% CI, 65.4–82.4) while maintaining specificity of 96% with AUROC 0.853 (95% CI, 0.782–0.908). **Conclusions:** The combination of cytology and cellblock increases the diagnostic accuracy of EUS-FNA. This approach shows a promise in practice where on-site pathology is not available.

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