ABSTRACT

**Context** Recent studies have shown high amplitude K-ras gene mutation and allelic imbalances are predictive of malignancy in pancreatic cysts. **Objective** Our purpose is to determine the added benefit of molecular testing in diagnosing small (≤3 cm) pancreatic cysts. **Design** Retrospective, single-institution study. **Patients** Patients with pancreatic cysts (≤3 cm) who presented for EUS evaluation. **Intervention** EUS-guided pancreatic cyst aspiration cytology, carcinoembryonic antigen (CEA) level determination, and detailed DNA analysis including K-ras gene mutation and allelic imbalance. **Main outcome measurements** Ability of cyst fluid DNA analysis to render a diagnosis compared with cytology and CEA level determination. **Results** Concordant diagnoses were seen in 56% (35/63) of cases. In 10 cases (16%), there was disagreement between cytology and molecular. Molecular testing provided a diagnosis in 20 cases (32%) when either cytology was unsatisfactory, or CEA not elevated (<192 ng/mL). Elevated CEA levels were seen in 25% of cases, each diagnosed as a mucinous lesion with molecular analysis. **Conclusions** Molecular analysis of pancreatic cyst fluid adds diagnostic value in scant specimens when cytology may be unsatisfactory and CEA unreliable.