Determining the diagnostic yields of different modalities in the investigation of biliary strictures

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BACKGROUND

Endoscopic retrograde cholangiopancreatography (ERCP) is the standard first-line combined diagnostic and therapeutic modality for biliary obstruction caused by pancreaticobiliary pathology.

> Tissue sampling can be obtained via two methods in ERCP: 1) Cytology brushings 2) Intraductal biopsies

Endoscopic ultrasonography (EUS) is another modality to obtain tissue sampling via incorporation of fine needle aspiration or biopsy (FNA; FNB).

EUS sampling has been shown to have a higher sensitivity than ERCP tissue sampling. (1)

Typically, EUS is only requested after ERCP-derived sampling is negative or indeterminate despite a high level of clinical suspicion of malignancy.

Combined index ERCP and EUS is limited in practice despite the benefits, including improved diagnostic accuracy and reduced time to achieve a histological diagnosis. (2)

AIMS

Determine the diagnostic yield of:
1) ERCP cytology brushings and intraductal biopsies for pancreaticobiliary malignancy
2) EUS-FNA and EUS-FNB for the proportion of cases that proceed to EUS after ERCP for additional tissue sampling

METHODS

Retrospective review of ERCP procedures during which biliary stricture brushings &/or biopsy were performed at a large tertiary hospital facility between 21/5/2017 and 21/5/2020.

Electronic medical records (eMR, the Viewer) were reviewed to determine patient-related and procedure-related data.

Final diagnoses subdivided into:

- **Definite malignancy**
  - Positive cytology or histology from either ERCP, EUS or surgery

- **Likely malignancy**
  - Consensus: from multidisciplinary team meeting
  - Specialist opinion in clinical notes
  - Chemotherapy being initiated

- **Benign**
  - Autoimmune pancreatitis
  - Choledocholithiasis
  - Thought to be benign by treating specialists

RESULTS

A total of 246 procedures

ERCP = 211, EUS = 35

184 patients (57% male; 43% female)

Final diagnoses of 211 ERCP procedures n= %

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>n=</th>
<th>%</th>
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<tbody>
<tr>
<td>Definite malignancy</td>
<td>99</td>
<td>47</td>
</tr>
<tr>
<td>'Likely malignancy'</td>
<td>55</td>
<td>26</td>
</tr>
<tr>
<td>Benign</td>
<td>57</td>
<td>27</td>
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CONCLUSIONS

> ERCP-derived brushings have a low diagnostic yield.
> Intraductal biopsies are superior to brushings; however, combining the two does not result in a significantly improved diagnostic yield.
> This retrospective snapshot revealed surprisingly low FNA/FNB diagnostic yields.

A prospective, comparative study is warranted to clarify the diagnostic algorithm.

REFERENCES:

<either positive brushing or biopsy, or both>