THE UTILITY OF QUANTITATIVE ENDOSCOPIC ULTRASOUND ELASTOGRAPHY FOR THE DIAGNOSIS OF SOLID PANCREATIC MASSES

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Introduction
Recent data suggests that endoscopic ultrasound elastography, a novel technique that allows real-time quantification of tissue stiffness, can accurately differentiate benign from malignant solid pancreatic masses.\(^1\) External validation of the diagnostic utility of this technique has not been reported.

**Methods**
We carried out quantitative EUSE on 31 consecutive patients with EUS-proven solid pancreatic masses using the linear Hitachi EUB-7500. Multiple quantitative elastographic measurements of the mass lesion (A) and soft tissue reference areas (B) were undertaken in each patient and the corresponding strain ratios (B/A) were calculated. Final diagnosis was based on EUS-fine needle aspiration cytology and/or resection specimen histology. The diagnostic accuracy of EUS elastography in detecting malignancy was calculated using receiver operating curve analysis.

**Results**
The mean lesion size was 27.6 (SD 9.8) mm. The final diagnoses were pancreatic adenocarcinoma (n=24), inflammatory mass (n=5) and neuroendocrine tumour (n=2). Both strain ratio and pancreatic mass elasticity were significantly higher among patients with pancreatic malignant tumours compared with those with inflammatory masses. However, the sensitivity, specificity, accuracy and area under the receiver operating curve of EUSE for correctly diagnosing pancreatic malignancy in our cohort (table 1) were less favourable than those reported recently, with lower mean strain ratio (4.62 vs 6.04) and higher pancreatic mass elasticity cut-offs (0.28 vs 0.05) providing the highest accuracy.

**Conclusion**
Quantitative EUS elastography is a promising tool for the differential diagnosis of solid pancreatic masses although its accuracy in our experience has been less favourable than recently reported. Further assessment of the utility of this technique in other cohorts is warranted.

**Competing interests**
None.

**Keywords**
elastography, endoscopic ultrasonography, Pancreatic cancer.

**REFERENCE**

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**Table 1 PTU-032**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean Strain Ratio</th>
<th>Mean Pancreatic Mass Elastography</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area under ROC</td>
<td>0.84 (95%CI 0.66-1.00)</td>
<td>0.83 (95%CI 0.65-1.00)</td>
</tr>
<tr>
<td>Sensitivity (%)</td>
<td>100%</td>
<td>40.0%</td>
</tr>
<tr>
<td>Specificity (%)</td>
<td>40.0%</td>
<td>100%</td>
</tr>
<tr>
<td>Accuracy (%)</td>
<td>90.32%</td>
<td>90.32%</td>
</tr>
</tbody>
</table>

*Using strain ratio cutoff of 4.62 and pancreatic mass elastography cutoff of 0.28*