Introduction

- Usefulness of endoscopic ultrasonography performed during double balloon enteroscopy (DBE-EUS) for the evaluation of extraluminal small bowel lesions has not been widely assessed.
- Incidence of small bowel tumors (SBT) was underestimated and the diagnostic yield appears to be around 6-20%.
- The primary aim was to evaluate the diagnostic rate of DBE-EUS for suspected SBT and its usefulness for characterization of submucosal tumors (SMT) in a large cohort of patients.
- The secondary endpoint was to compare DBE-EUS with double balloon enteroscopy (DBE), computerised tomography (CT) and small bowel capsule endoscopy (SBCE).

Capsule Summary

- Our study confirmed that DBE-EUS is a safe and useful technique for SBT evaluation.
- DBE-EUS is superior to DBE (P=0.0043) for SMT characterization and to SBCE for SBT diagnosis (P=0.0004).
- EUS should complement DBE when SMT are encountered, in order to establish a certain diagnosis and provide the most appropriate management.

Methods

- Patients with suspected SBT, who underwent EUS-DBE in our Institution between 2007 and December 2013 were retrospectively reviewed.
- Demographic and clinical data, endoscopic and radiological findings, therapeutic management, final diagnosis and follow-up were checked.
- Final diagnosis of the suspected SBT was established considering the results obtained at DBE, DBE-EUS, CT, SBCE, histology and therapeutic management.

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>DBE</th>
<th>DBE-EUS</th>
<th>SBCE</th>
<th>CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMT</td>
<td>29/30</td>
<td>29/30</td>
<td>5/13</td>
<td>18/27</td>
</tr>
<tr>
<td>Other SBT</td>
<td>17/18</td>
<td>18/18</td>
<td>3/6</td>
<td>17/18</td>
</tr>
<tr>
<td>Non SBT</td>
<td>7/14</td>
<td>8/14</td>
<td>7/8</td>
<td>10/12</td>
</tr>
<tr>
<td>Total</td>
<td>53/62</td>
<td>55/62</td>
<td>15/27</td>
<td>45/57</td>
</tr>
</tbody>
</table>

Table 1: SMT characterization DBE vs DBE-EUS

Table 2: SBT diagnostic rate of DBE-EUS, DBE, CT and SBCE

Results

- 62 patients with suspected SBT were included in the study (39 male, 60 years old); DBE-EUS was successfully performed in all patients, SBCE in 27 and CT in 57.
- Both DBE and DBE-EUS had a high diagnostic rate for SBT and SMT diagnosis.
- DBE-EUS (63%) was significantly superior to DBE (27%) for SMT characterization (P=0.0043).
- 6 SMT (20%) were characterised only by DBE-EUS, which confirmed the nature of further 13 SMT (43%).
- DBE-EUS (P=0.0004), DBE (P=0.002), and CT scan (P=0.02) had a higher SBT diagnostic rate compared to SBCE.

Conclusion

- Our study confirmed that DBE-EUS is a safe and useful technique.
- DBE-EUS is superior to DBE (P=0.0043) for SMT characterization.
- DBE-EUS and DBE have a similar SBT and SMT diagnostic rate.
- DBE-EUS is superior to SBCE for SBT diagnosis.
- EUS technique should be added to DBE practice when SMT are encountered, in order to establish a certain diagnosis and provide the appropriate management.