Saline-infusion sonoPODography (SPG): a diagnostic accuracy study

INTRO

- SPG: a novel ultrasound procedure that involves introducing fluid into the pouch of Douglas (POD) via the uterus and tubes to create an acoustic window and enhanced contrast between tissues in the pelvis.
- Diagnosis of superficial endometriosis (SE) remains evasive beyond laparoscopy.

METHODS

Design: Prospective diagnostic accuracy study.
Patients: Patients with suspected endometriosis.
Main Outcome Measures: SE of the posterior compartment was evaluated and compared to laparoscopic findings. The diagnostic performance, accuracy, sensitivity, specificity, PPV, NPV and LR+/LR-, was calculated.

RESULTS

<table>
<thead>
<tr>
<th></th>
<th>Superficial endometriosis</th>
<th>POD superficial endometriosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>73%</td>
<td>90%</td>
</tr>
<tr>
<td>Prevalence</td>
<td>80%</td>
<td>90%</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>67%</td>
<td>89%</td>
</tr>
<tr>
<td>Specificity</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>PPV</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>NPV</td>
<td>43%</td>
<td>50%</td>
</tr>
<tr>
<td>LR+</td>
<td>0.33</td>
<td>0.11</td>
</tr>
<tr>
<td>LR-</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

WHAT DOES SUPERFICIAL ENDO LOOK LIKE?

- Defined relative to peritoneal surfaces:
  1) superficial hypoechoic areas,
  2) hyperechoic projections,
  3) cystic areas,
  4) pockets of fluid,
  5) filmy, irregular adhesions.

WHAT DOES THE PATIENT POPULATION LOOK LIKE?

- Overall endometriosis 79%
- Deep endometriosis 26%
- Ovarian endometriomas 16%
- POD obliteration 11%
- Superficial endometriosis 74%

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Superficial endometriosis can be seen on ultrasound using the novel saline-infusion sonoPODography (SPG).