The role of bowel preparation prior to ultrasound to detect and assess deep endometriotic nodules on rectal wall.

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Endometriosis may affect the rectosigmoid in 9% to 22% of all women with proven endometriosis.

Bowel endometriosis is believed to be the cause of chronic pelvic pain and other gastrointestinal symptoms.

This type of endometriosis can only be suspected in 40-68% of the cases by clinical examination.

During laparoscopy, generalist gynecologists might fail to detect deeply infiltrating endometriosis (DIE) nodules infiltrating the rectum.

Chapron et al. *Hum Reprod.* 2006
Remorgida et al. *Hum Reprod.* 2005
a precise pre-operative work-up with imaging methods is mandatory to decide the surgical approach and to inform the patient about the risk of complications.
TVUS offers important advantages compared with other imaging methods

- non-invasive technique
- without radiation
- cost-effective
- anesthesia not required
- familiar to gynecologists
- well-accepted by patients
- excellent diagnostic accuracy.

first-line imaging examination to perform for women with suspected endometriosis

Piketty et al. *Hum Reprod* 2009
To improve TVUS accuracy…

- bowel preparation
- water-contrast in the rectal lumen
- saline solution
- gel in the vagina

Few data is published about the role of these substances in the diagnosis of intestinal DIE.

Gonçalves et al. *Hum Reprod* 2010
Valenzano Menada et al. *Hum Reprod* 2008
To evaluate the benefit of bowel preparation (BP) before a transvaginal ultrasound (TVUS) to detect and describe nodules of deep infiltrating endometriosis (DIE) affecting the anterior rectal wall.
The rectal wall of patients with suspected endometriosis was evaluated by TVUS.

First ultrasound was performed without a previous BP

Second, just after three-day low-residue diet and two enemas of 250 ml (12h and 3h before TVUS)
Intestinal involvement was considered when the lesion affected at least the muscularis propria.

Rectal wall non evaluable without bowel preparation
RESULTS

140 patients with a suspected DIE included
8 (6%) patients excluded due to spontaneous bowel emptying

DEMOGRAPHIC DATA

Intestinal nodules were observed more frequently in infertile women than in non-infertile participants (79.5% versus 34%; p>0.001).

63% of patients with previous endometriosis surgeries presented intestinal nodules.

Infertile patients (%) 29.5%
“Evaluable” variables during TVUS without BP:

- rectal residues and gases did not allow to measure the rectal nodules in half of cases (30/59)
- the circumference of the bowel affected by the lesion was only estimated in 25% of nodules
- the deepest layer infiltrated was evaluable in 76% of the cases
- the lower sigmoid was only evaluable in 4 participants (3%).

variables were clearly more “evaluable” after BP than without it
73 nodules in the rectum wall detected without BP

95 nodules detected after BP

22 nodules more with BP

1 nodule more each 6 patients examined with BP

Considering only the sub-group of patients with and evaluable rectum during the first exam without BP (109 out of 132 women):

up to 10 nodules were not detected without BP

1 nodule less than 11 patients examined without BP
<table>
<thead>
<tr>
<th>TVUS without bowel preparation</th>
<th>TVUS with bowel preparation</th>
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<tbody>
<tr>
<td></td>
<td>Without intestinal involvement (n=49)</td>
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<td>Without intestinal involvement (n=37)</td>
<td>31 (84%)</td>
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<td>Adherences to the serous membrane (n=38)</td>
<td>3 (8%)</td>
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<tr>
<td>Intestinal nodules (n=35)</td>
<td>2 (6%)</td>
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<tr>
<td>Not evaluable bowel(n=22)</td>
<td>13 (59%)</td>
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Lesions seem longer, deeper and with less affected layers with BP than without BP.
TVUS with BP permits to detect more rectal nodules of DIE in patients with suspected endometriosis.

The nodules seem longer, deeper and affecting more rectal layers after BP. Detailed ultrasound parameters are frequently non-evaluable without BP.

Thank you