






ECO-LEAK technique: early detection of colorectal anastomotic leakage by transvaginal ultrasound

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Modified posterior pelvic exenteration or colorectal resection followed by an end-to-end colorectal anastomosis are common procedures during cytoreduction.¹ Anastomotic leak represents a clinical challenge that delays patients' recovery and oncologic treatment, with a direct negative impact on overall prognosis and survival.¹ The overall anastomotic leak rate after ovarian cancer surgery is 5.3%.² Some risk factors, such as advanced age, multiple bowel resections, low serum albumin level, and a short distance from the anastomosis to the anal verge, have been associated with increased incidence of anastomotic leak.^{1,3} Different tests can be used to diagnose leak during the post-operative period, like CT-enema or proctoscopy.⁴ Nevertheless, there is no published evidence about the use of ultrasound for this purpose and its role is still to be established.

In order to diagnose the presence of anastomotic leakage in female patients after colorectal anastomosis, we devised this diagnostic test (ECO-LEAK) during the postoperative period.

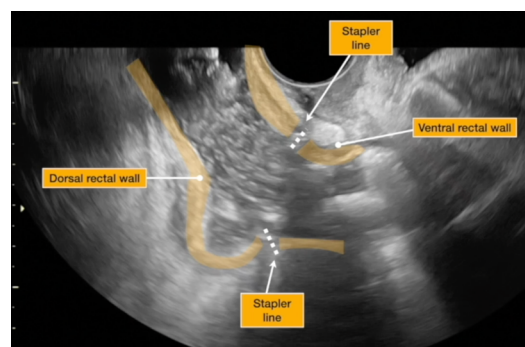
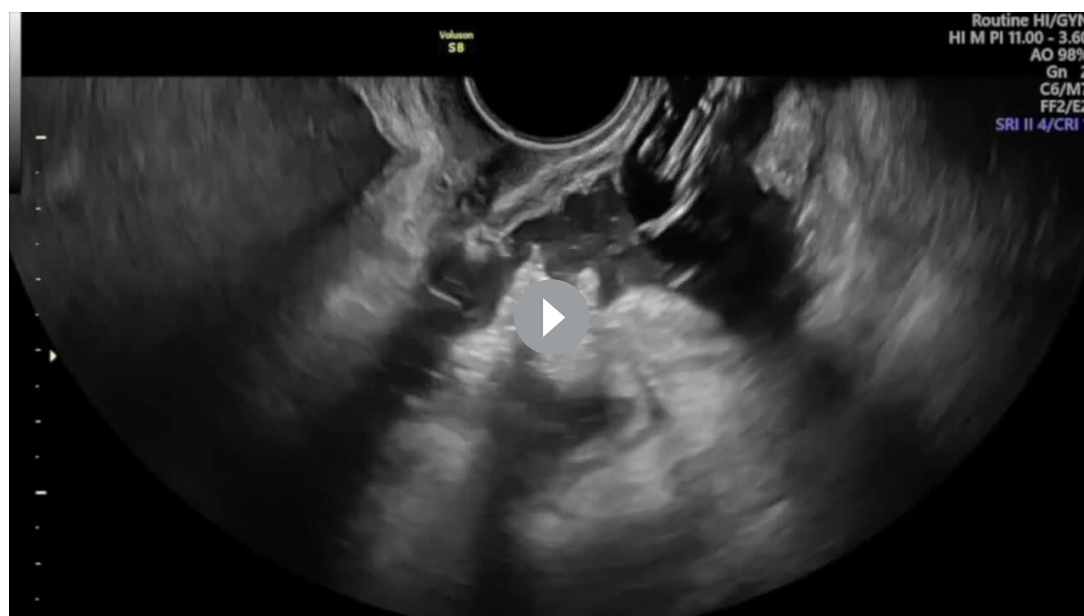


Figure 1 Normal ultrasound view of colorectal anastomosis.

The ECO-LEAK test is performed in the following sequence, after informing the patient and obtaining her consent. The patient is placed in a gynecological position (lithotomy). Then basal transvaginal ultrasound is performed with the aim of describing the presence or absence of free fluid or other ultrasound findings



Video 1



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Video article

(sagittal and transverse scan). Simultaneously, a Foley catheter is introduced through the anus, filling the balloon under direct visualization. Next, transvaginal ultrasound with enema is performed by the instillation of 180 cc of serum under ultrasound vision with the probe in the vagina and sagittal and mid-sagittal exploration. If no new free peri-anastomotic/pelvic fluid appears, the test is considered negative. If there is a new appearance of pelvic free fluid (previously absent) or an increase in free peri-anastomotic/pelvic fluid with respect to the baseline examination (fluid present at the beginning of the examination), the test is considered positive.

In conclusions, anastomotic leak can occur despite a normal intra-operative anastomosis check-up. Transvaginal ultrasound associated with a rectal enema (ECO-LEAK) performed during the post-operative period might represent a useful tool for anastomotic leak diagnosis. A prospective study is needed to determine its accuracy.

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