



Low pressure laparoscopic procedure in morbidly obese patients with endometrial carcinoma using a new subcutaneous abdominal wall-retraction device: a surgical challenge

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A minimally invasive approach is considered the standard treatment for early-stage endometrial cancer,¹ but laparotomy remains an option in morbidly obese patients whose laparoscopic conversion rate after initial laparoscopic approach is still high. The main reasons for laparoscopic conversion in obese patients are inadequate viscera exposure due to adiposity and an intolerance of the Trendelenburg position. Additionally, laparoscopic surgery using high pressure CO₂

in the peritoneum could induce several hemodynamic and cardiorespiratory changes and is not indicated in high-risk patients suffering from cardiorespiratory dysfunction or renal impairment that can occur in most obese patients.

In order to overcome these limitations for the treatment of gynecological cancer in these patients, in our department we adopted a technique that combines different approaches and consists of a low-pressure

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Video 1 Low-pressure laparoscopic procedure in an obese patient with endometrial carcinoma using the Laparotenser device. All permissions to include images in the video obtained. Patient consent for publication not required.

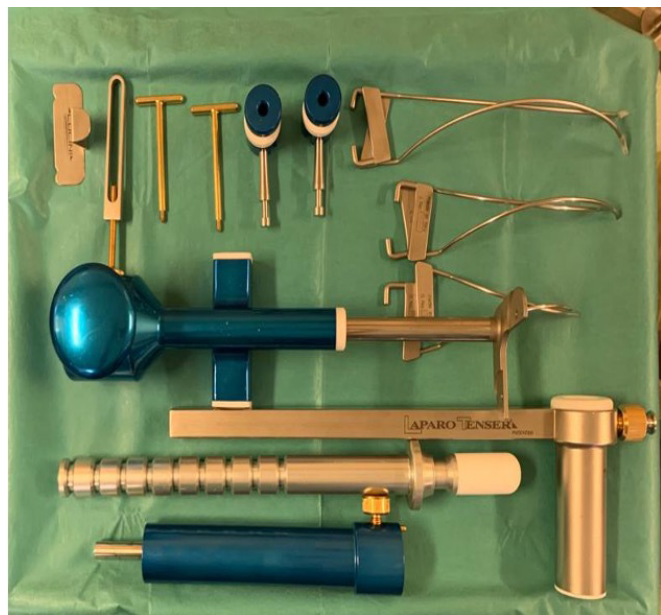


Figure 1 Components of the wall-retraction device for low pressure laparoscopic surgery.

laparoscopy technique using a subcutaneous abdominal wall-retraction device called Laparo-Tenser (Lucini Surgical Concept srl, Milan, Italy).²

The strength of this device, among other existing surgical instruments which are suitable such as wall-lifters (ie, KeyLoop, Wall lifting system by Mizuho Medical Inc, Kent retractor set), lies in the structure of its subcutaneous needles; this is obtained with a mathematical model derived from an analysis of abdominal tissue tension caused by gas expansion, adapted to avoid local

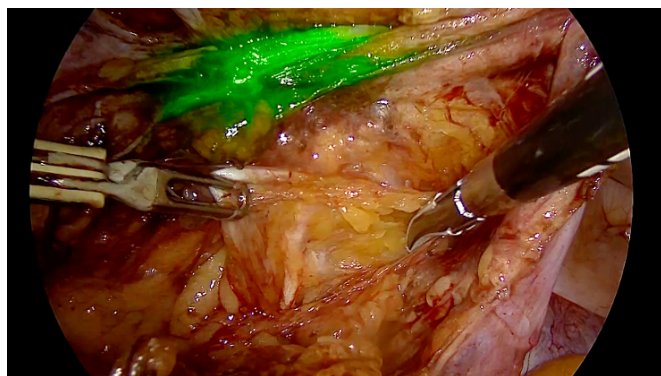


Figure 2 Video image: an example of the operating field that it is possible to create with the abdominal wall-retraction device.

microtrauma or tissue tension and thus helping to improve anesthesiological parameters without complications,³ and avoiding the disadvantages of intraperitoneal high pressure and CO₂ absorption. In our experience no complications related to subcutaneous insertion have occurred.

This, in addition to recent evidence⁴ about a non-inferiority, in terms of complications, of gasless laparoscopy compared with a conventional one, makes this type of surgery a very interesting approach for obese patients with gynecological malignancy.

Patients eligible for this type of treatment are obese with a body mass index >35 kg/m² or >30 kg/m² plus obesity-related comorbidities (diabetes, sleep apnea syndrome, hypertension, ischemic heart disease). The procedures performed using low-pressure laparoscopy in our center are: hysterectomy (simple and radical), bilateral salpingo-oophorectomy, pelvic and para-aortic sentinel node biopsy, systematic lymph node dissection, and comprehensive peritoneal staging.

In this video we show in detail how this device can be used during a low-pressure laparoscopy procedure in an obese patient with endometrial cancer.

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