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VISCERAL SURGERY VIDEOS

Large incisional hernias: The double layer technique with anterior component separation (with video)

Grandes éventrations : double renfort prothétique rétro-musculaire et intrapéritonéal avec séparation antérieure des composants de la paroi (avec vidéo)

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Underlay mesh

MOTS CLÉS
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Prothèse intrapéritonéale ;
Technique de Ramirez ;
Séparation des composants de la paroi

Mesh repair of incisional hernias has become the standard of care [1]. The Rives retromuscular sublay repair has been shown to provide the best results, by restoring the abdominal wall anatomy with a linea alba bordered by rectus abdominis muscles linked to stretched lateral muscles [2]. This technique ensures protection of the intraperitoneal organs from the mesh and protection of the mesh in case of superficial skin infection, assuming that both the anterior and posterior rectus sheaths are closed. However, an increasing number of patients have large or complex abdominal wall defects, which may be considered inoperable. Primary repair of the defect is often associated with disproportionate recurrence rates. This video addresses technical issues by describing the successive placement of an inlay dual-sided intraperitoneal mesh and a sublay retromuscular polypropylene mesh, in association with the component separation technique described by Ramirez et al. for giant incisional hernia with a large muscular defect and difficulties in closing both posterior and anterior rectus sheaths [3]. A preoperative CT scan was performed to measure the size of the defect between the rectus muscles and the volume of the sac. The procedure began with a skin incision with resection of its undervascularized parts. The hernia sac was dissected, and entirely resected to prevent seroma formation. Then, the posterior rectus sheath was opened at each side to expose the retromuscular plane. The opening was done close to the midline, to save the most posterior rectus sheath as possible for upcoming posterior closure. In this case and because the posterior rectus sheath could not be entirely closed due to muscular retraction, a dual-sided intraperitoneal monofilament polyester

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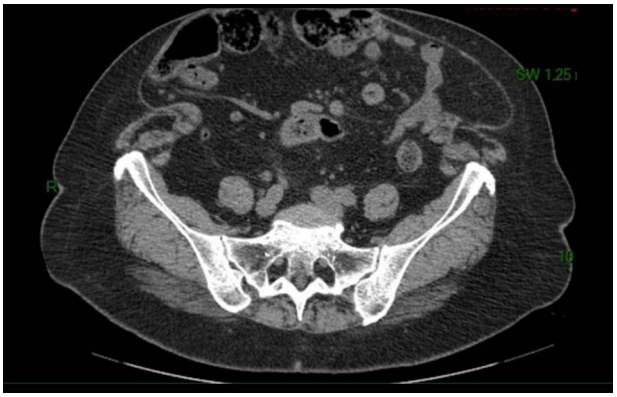


Figure 1. CT-scan of giant incisional hernia.

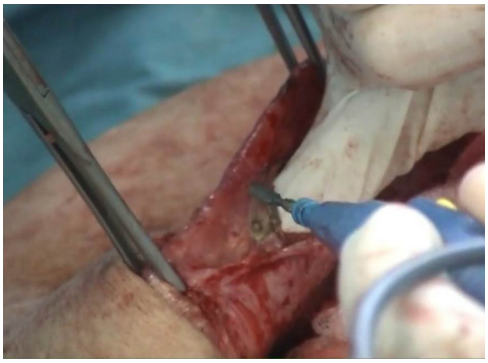
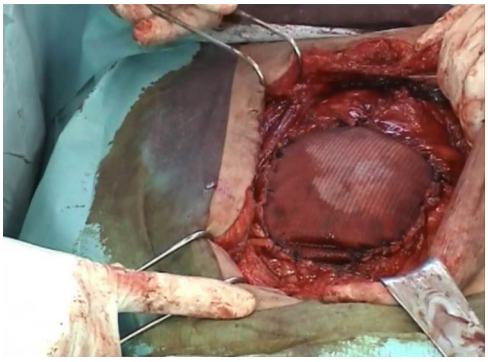


Figure 2. Opening of posterior rectus sheat.



Figue 3. Underlay mesh placement.

mesh with absorbable collagen film was used to fill the remaining gap. This bridging mesh was placed inlay and fixed circularly to the posterior rectus sheath with stiches using slowly absorbable sutures. A second mesh was placed upward behind the xyphoid process and costal margin, downward behind the pectineal ligament on each side and at the upper aspect of the pubic arch medially. Because muscle retraction precluded any possibility for anterior closure, the component separation technique was then used [3].

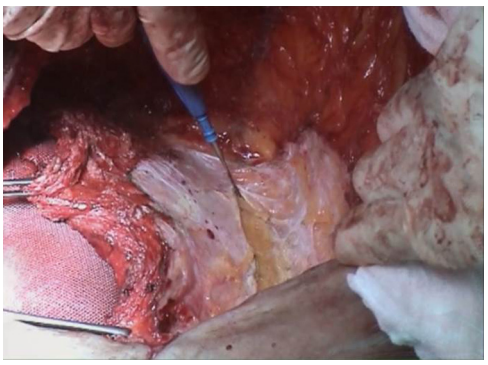


Figure 4. Anterior component separation (Ramirez procedure).

A vertical fasciotomy of the external oblique aponeurosis was made, 1 cm lateral to the lateral border of the rectus sheath. The external abdominal oblique release was performed and followed by dissection of the areolar tissue plane between the external and internal oblique muscles. Subsequent dissection allowed the compartments to separate and consequently the rectus sheath could slide to re-approximate the abdominal wall muscles in the midline (Figs. 1—4). This video shows the different steps necessary to perform this surgical procedure. It will be useful to all surgeons needing to manage patients with large incisional hernias using the double layer technique with anterior component separation.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at https://doi.org/10.1016/j.jviscsurg.2019.06.014.

Disclosure of interest

The authors declare that they have no competing interest.

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