



Clinical case with video

A complex incisional hernia repair with Intraoperative Fascial Traction device (with video)

Benoît Romain^{a,b,*}, Guillaume Sauvinet^a, Thomas Rebiere^a^a General and Digestive Surgery Department, Strasbourg University Hospitals, Hautepierre Hospital, Avenue Molière, 67098 Strasbourg Cedex, France^b Streinth Lab (Stress Response and Innovative Therapies), Strasbourg University, Inserm UMR_S 1113 IRFAC (Interface Recherche Fondamentale et Appliquée à la Cancérologie), 67200 Strasbourg, France

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We report the use of an Intraoperative Fascial Traction device (Fasciotens[®]) which was developed by Niebuhr et al [1,2]. This system is used for complex incisional hernia repair with a parietal defect greater than 10 cm.

We describe the case of a 33-year-old patient who was operated on abdominal gunshot wound requiring damage control laparotomy with bowel resection. The postoperative course was complicated by evisceration with enterocutaneous fistula requiring a reoperation. During this intervention, the anterior fascia could not be closed and only the skin was closed. The patient subsequently developed an incisional hernia with loss of domain (Fig. 1). An optimisation was performed before the incisional hernia repair (Goni-Moreno and botulinum toxin injection).

The first step consists in taking off and preserving the hernia sac in order to be able to use it for parietal closure if the approximation of the fascia edges is not possible. Half of the sac will be used to close the posterior fascia, while the other half will be used to close the anterior fascia [3] (Fig. 2). In this case the distance between the 2 rectus muscles is 25 cm. We then perform the retromuscular dissection bilaterally, then use the transversus abdominis muscle release technique according to the TAR technique (Transversus Abdominis Release) in order to close the posterior fascia (Fig. 3).

The Fasciotens[®] device consists of applying progressive traction on the anterior fascia for 30 minutes to obtain primary fascia closure without tension. Six stitches (Vicryl[®] 1) are placed using a U-suture technique along the anterior fascia for a width of 2–3 cm. The traction is applied diagonally to the device. The sutures are locked in the holder (Fig. 4). A pressure sensor above the device estimates the



Fig. 1. Preoperative characteristics.

cumulative tension applied. Thus, the fascia is pulled forward with continuous control of the applied pulling force. The tension is continuously adjusted by pulling and reattaching each suture or increasing the pulling force with an adjustment handle on top of the device every 2 minutes. Thus, the device permitted to reduce the distance of the anterior fascia defect by half. We used the rest of the hernia sac according to autoplasty technique to close the anterior plane with several continuous PDS[®] sutures.

Informed consent

Patient was provided with information and gave his consent for the publication of this case report, these video and figure

* Corresponding address.

E-mail address: benoit.romain@chru-strasbourg.fr (B. Romain).

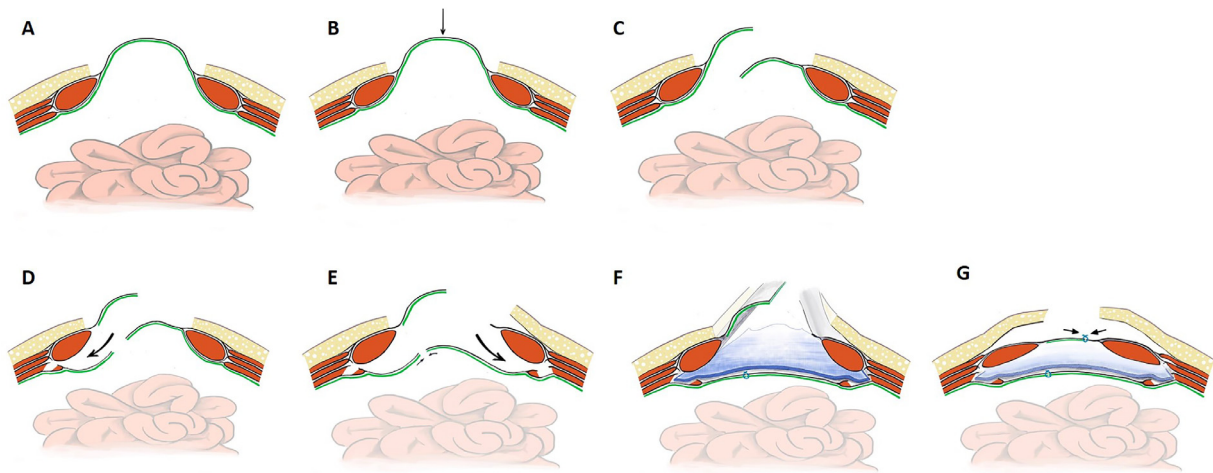


Fig. 2. Autoplasty technique. A: Dissection of the hernia sac; B: Incision of the hernia sac at the level of its half; C, D, E, F, G: Half of the sac will be used to close the posterior fascia, while the other half will be used to close the anterior fascia

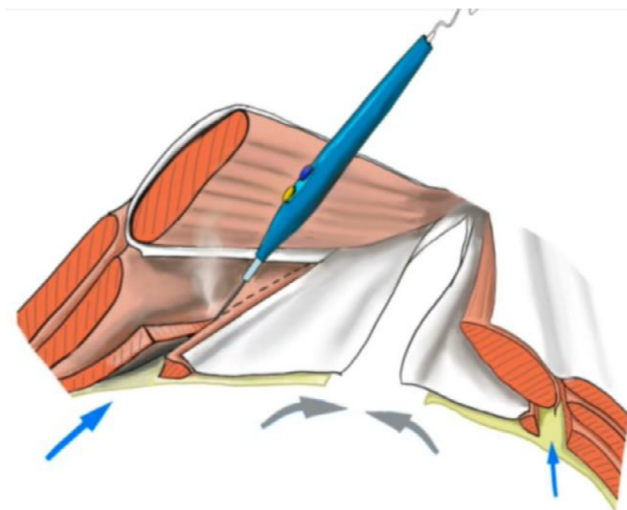


Fig. 3. Transversus Abdominis Release (TAR) technique.

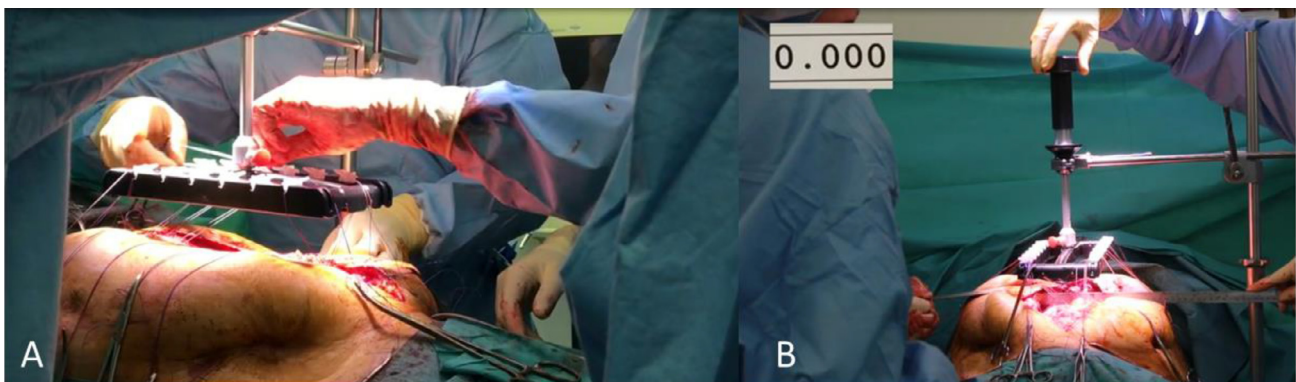


Fig. 4. Anterior fascial traction with Intraoperative Fascial Traction device (Fasciotens[®]). A: 6 stitches of Vicryl[®] 1 are placed using a U-suture technique along the anterior fascia for a width of 2–3 cm. The traction is applied diagonally to the device. Sutures are locked in the holder B: A pressure sensor above the device estimates the cumulative tension applied. The tension is continuously adjusted by pulling and reattaching each suture or increasing the pulling force with an adjustment handle on top of the device every 2 minutes.

Supplementary materials

The video related to this article can be found online at:
[doi:10.1016/j.soda.2022.100062](https://doi.org/10.1016/j.soda.2022.100062).

Conflict of interest

None.

Références

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