

## Open Mesh Repair of a Large Incisional Hernia at the Yaoundé Central Hospital: A Case Report

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### Abstract

Incisional hernia accounts for 13% to 20% of complications following laparotomy. The surgical reconstruction of the wall is generally delicate, especially for the large forms, with the rate of recurrence approaching 46% after the first intervention. Several reconstructive techniques have been described, including polypropylene prosthetic parietoplasty, which tends to become the standard of care. We report here a case of large incisional hernia recurring in a 67-years-old woman who had been initially treated 6 years earlier. The patient was admitted for an irreducible perumbilical mass, with a wall defect measured at 18 cm. A large incisional hernia was diagnosed and a pre-peritoneal polypropylene mesh repair carried out with the short term postoperative follow-up unremarkable.

**Keywords:** *Large incisional hernia; Parietoplasty*

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### Introduction

Incisional hernia complicates 13 to 20% of laparotomies [1,2]. The surgical reconstruction of the wall is generally delicate, especially for large incisional hernias, with recurrence rates approaching 46% after the first intervention [3,4]. In addition, large incisional hernias with reduced abdominal wall compliance pose not only the problem of closure but also of postoperative respiratory difficulties and abdominal compartment syndrome [4]. Several reconstructive techniques have been developed, including polypropylene prosthetic parietoplasty, which tends to become the standard treatment [2]. In Africa and particularly in Cameroon, prosthetic management is hampered mainly by the precarious socio-economic situation of patients. The interest of this work is to document a case of large incisional hernia treated in the Digestive Surgery Unit of the Yaoundé Central Hospital.

## Case Presentation

This is a 67-year-old patient who came consulting for an irreducible periumbilical swelling, associated with abdominal heaviness; all evolving for about 7 years. The patient reported an initial umbilical hernia repair in 2009 followed by a second procedure in 2010 indicated for recurrence of the former. Otherwise, the patient was hypertensive following diagnosis 2 years prior. Physical examination revealed a conscious patient, well oriented with stable physical parameters. Of note was an umbilical mass (30 cm in diameter, painless, reducible, regular contours, and a rubbery consistency, and surmounted by a median umbilical scar). The other hernia orifices were free and the rest of the physical examination was normal (Figure 1).



**Figure 1:** Preoperative view of abdomen.

A large incisional hernia was thus diagnosed with possibility of loss of abdominal compliance. An open surgical repair with a mesh was indicated with goal to close the wall defect and prevent possible post-operative complications such as abdominal compartment pressure. The surgical approach consisted of an anterior incision centered on the hernia.



**Figure 2:** Elliptical incision centered on the hernia with excision of excess skin.

We made an elliptical incision with excess skin excision (Figure 2 and Figure 3). A polypropylene mesh was selected and implanted in the preperitoneal space beneath the wall weakness (Figure 4). An active tubular drain was placed in the sub-cutis, with the latter closed with absorbable suture in an interrupted stitch. The skin was finally closed with non-absorbable suture in an interrupted stitch. The drain was judged satisfactory and removed on postoperative day 2. The rest of the postoperative outcome was unremarkable.



**Figure 3:** Placement of the mesh in the preperitoneal space.



**Figure 4:** Appearance of the abdomen in the supine position on postoperative day 7.

The evolution of the operative wound was favorable, without complication (Figure 4).

## Discussion

Incisional hernia is one of the most common iatrogenic complications of abdominal surgery, with an incidence of up to 20% [2,5]. They are called large “giant” when the size of the collar is greater than 15 cm [6]. The anatomical reconstruction of the linea nigra by simple raphy and fascial autoplasty can lead to recurrence of up to 54% depending on the series, especially for large incisional hernias. Prosthetic repair with a mesh enhances a solid wall in the long term and a recurrence rate of less than 10%. In addition, post-operative complications such as pain and enterocutaneous fistulas are significantly reduced [5]. In our case, we made the choice of a prosthetic repair considering the size of the collar (18 cm) and the results were satisfactory in the short and medium term. The Goni Moreno technique proposed in 1940, which consists of preoperative pneumoperitoneum (PPP) preparation; achieves an abdominal volume increase of nearly 50%, which facilitates the closure of the wall and decreases the risk of abdominal compartment syndrome [7]. But this technique was not adopted in this case. Its poor implementation in sub-Saharan Africa begs the need for its development.

## Conclusion

Giant incisional hernias pose several challenges including abdominal wall closure, postoperative respiratory difficulties and abdominal compartment syndrome. Prosthetic mesh repair permits the avoidance of such complications and reduce the recurrence rate.

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