

# Postoperative outcome of a giant incisional hernia resolved by anterior component separation technique

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## ABSTRACT

*We present the case of a 64 years old man, who was admitted in our surgical clinic with a giant median incisional hernia after a previously colonic resection and anastomosis for a colonic tumor. We had to deal with a loss of domain giant ventral hernia.*

*The patient was known with chronic obstructive pulmonary disease (COPD) and chronic coughing, that was an aggravating condition.*

*We did an alloplasty in Rives-Stoppa manner, accompanied by an anterior component separation.*

*The clinical postoperative outcome was very good and we present the results.*

**Keywords:** loss of domain, giant hernia, component separation

## INTRODUCTION

Component separation was first described and used by Ramirez in 1990 as a result of a study on human corpses (1).

Component separation is a relatively new technique used in cases that need adequate coverage for big abdominal wall defects such as

a loss of domain ventral hernia. Anterior component separation requires surgical dissection of subcutaneous plain, from medial to lateral. Then, a longitudinal fasciotomy immediately lateral (at 1.5-2 cm) to the lateral margin of rectus abdominis muscle, and dissection on the plane between external and internal oblique muscles allows an extension to medial of rectus

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abdominal sheets. This release allows for medial advancement of the fascia and closure of up to 20 cm wide defects in the midline area (2). The surgeon has to take care not to excessively damage the vascularization, nor the innervation of the muscles.

The extensive subcutaneous lateral dissection had been associated with ischemia of the midline skin edges.

## CASE PRESENTATION

A 64-years old man presented to our emergency room with abdominal pain and a giant, irreducible ventral median incisional hernia.

The patient presented a median xifo-pubian scar (left hemicolectomy) and also a long right subcostal scar (Kocher incision for a difficult cholecistectomy).

Common blood tests and abdominal X ray showed no modification.

A slightly difficulty of breathing determined us to run a spirometry, that proved obvious air flow obstruction ( $FEV_1$  63%,  $FEV_1/FVC$  57%).

Abdominal CT scan confirmed the diagnosis of ventral hernia with a maximum defect on midline of 15 cm. There were no signs of secondary tumors. CT scan also showed multiple adhesences between small and large bowel and anterior abdominal wall on the midline and also in right upper quadrant (at the cholecistectomy

scar, with no parietal defect at that level). This was the clinical tactical reason to avoid, in this case, as long as it would have been technically possible, posterior component separation.

The type of mesh that we chose was a polypropylene one. Its' characteristics are fit for a retromuscular montage in Rives-Stoppa manner, as they almost simultaneously described independently this procedure (3,4). In our experience, polypropylene mesh remains the best option for intra- or retromuscular montage (5-11). It is well tolerated and in this type of montage we do not have to take care about adhesion syndrome between bowels and mesh surface.

We did the operation under general anesthesia. The operating time was 240 minutes. Intraoperative, after anterior component separation we could achieve the medial margins of linea alba coming into contact without tension, so a further posterior separation seemed useless. We fixed two aspirative subcutaneous drains. The postoperative evolution was good. Drains collected 50-100 ml serous fluid daily, till day 9, when both drains were suppressed.

The patient was discharged on day 10. On day 14 follow-up, the outcome was excellent as it could be seen in figure 1. A very small skin necrosis was observed but it was managed conservatory, and a small secondary suture 10 days after. As described in literature, the midline skin



**FIGURE 1.** Clinical postoperative outcome compared to initial situation (2 weeks after surgical procedure)

necrosis could be a consequence of extensive lateral subcutaneous dissection. In our case it was a minor complication due to its small surface.

## CONCLUSIONS

In several difficult cases anterior component separation can achieve alone sufficient medial

translation for a good abdominal wall repair without parietal tension.

The particularity of this case was association between loss of domain giant ventral hernia and COPD. In spite of this difficult association, the result was very good.

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