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
abdominal sheets. This release allows for medi-
al 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 dissec-
tion had been associated with ischemia of the
midline skin edges.

CASE PRESENTATION

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

The patient presented a median xifo-pubian
scar (left hemicolecction) 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 sec-
dary tumors. CT scan also showed multiple
adherences 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 poly-
propylene one. Its’ characteristics are fit for a
retromuscular montage in Rives-Stoppa man-
ner, as they almost simultaneously described
independently this procedure (3,4). In our expe-
rience, polypropylene mesh remains the best
option for intra- or retromuscular montage (5-
11). It is well tolerated and in this type of mon-
tage we do not have to take care about adhe-
sion syndrome between bowels and mesh
surface.

We did the operation under general anes-
thesia. The operating time was 240 minutes. In-
traoperative, after anterior component separa-
tion we could achieve the medial margins of
linea alba coming into contact without tension,
so a further posterior separation seemed use-
less. We fixed two aspirative subcutaneous
drains. The postoperatory 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 ne-
crosis was observed but it was managed con-
servatory, 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)](image-url)
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.

REFERENCES