

Da-Silva, Malmo Peritoneal Flap in Ventral and Incisional Hernia Repair Our Experience

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ABSTRACT

Large ventral hernia is a challenge to operate in tier 3 cities of India, because of economic constrains of local population. Here author reports three large ventral hernias operated with use of Da-Silva, Malmo peritoneal flap technique. Peritoneal flap should be integral part of abdominal wall repair procedures. It reduces cost, morbidity and mortality of a large ventral hernia repair. It is a useful method for repair of large ventral and incisional hernia when primary fascial closer is not achievable.

Keywords: peritoneal flap, ventral hernia, incisional hernia

INTRODUCTION

Large ventral hernia is a challenge to operate in rural tier 3 cities of India, as there are economic constrains. Author describes use of peritoneal flap with Rives Stoppa and Transverse abdominis release in large ventral hernias along with (proline) mesh sandwich repair.

CASE 1

She is 80-year frail female patient operated for strangulated femoral hernia 1 year ago, came with large infra umbilical incisional hernia with subacute intestinal obstruction.

CT showed: defect of 9.9cm width and 10.5 cm length of the defect. (figure 1)

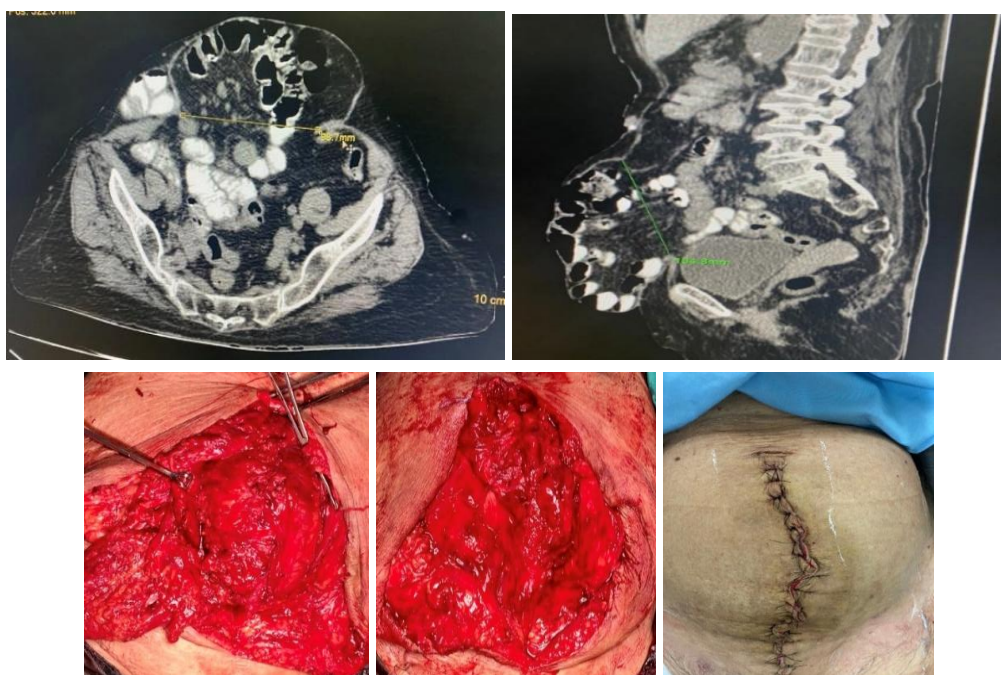


Figure 1.

Looking at large defect and frailty of the patient, did sublay sandwich (Rives da silva) mesh repair (30 by 18cm proline medium weight macroporous mesh used) for this patient.

She had uneventful recovery and was discharged on 10th post-operative day. (figure 1)

CASE 2

She is 56-year female with large Rt. Paramedian incisional hernia. Operated for ruptured caecum growth 1 year ago.

CT suggested Rt. Paramedian incisional hernia with 8.5cm width and 11 cm length of defect.

This patient required bilateral transversus abdominis release. peritoneal flap extension of posterior rectus sheath achieved tensionless closer of posterior rectus sheath. In this patient retro muscular 35 by 30 cm proline macroporous medium weight mesh was placed. Anterior rectus sheath was closed. Patient had uneventful recovery. This is retro muscular Da silva sandwich repair. (figure 2)

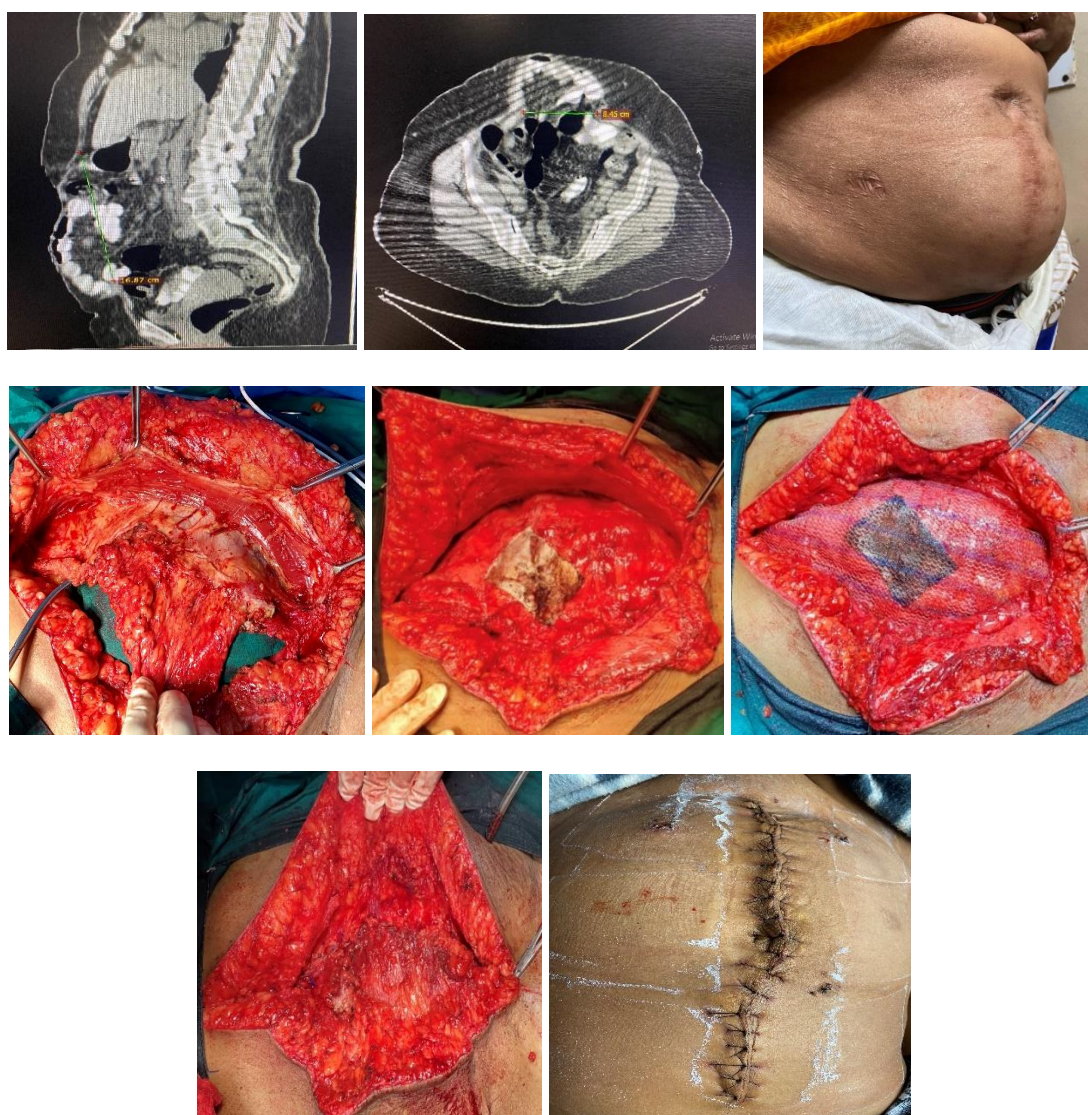


Figure 2.

CASE 3

54-year male with umbilical recurrent incisional hernia, gives history of operated for umbilical hernia 2 years ago.

His CT abdomen suggestive of 8 cm width hernia with good sac. He underwent sublay sandwich repair with 1.5 cm sac bridging of

anterior rectus sheath. Doing well after 1 year follow up. (figure 3).



Figure 3

DISCUSSION

Case 1: Is an 80-year frail female with large incisional hernia. Myofascial advancement at this age will add to its own morbidity and mortality, hence to reduce its risk Da-silva sublay sandwich repair was done with excellent outcome.

Case 2: In second case the hernia was in previous paramedian incision, operated twice for childhood ileotransverse anastomosis and ruptured caecal growth in blind loop 1 year ago. Two procedures had caused noncompliant abdominal wall with lot of fibrosis. Previous right sided pathology in abdomen has led to many peritoneal adhesions. As she was fit young patient, we did bilateral transverse abdominis release for posterior rectus sheath closer. In this case we had kept sac with left posterior rectus sheath which helped tension less closer of posterior rectus sheath and we could cover sutured peritoneal tears on Rt. Side with sac (difficult TAR on Rt. Side), which helped in good post-operative recovery.

Case 3: In third case kept peritoneal sac with anterior and posterior rectus sheath, Defect was 8cm. In this case after Rives Stoppa dissection we could close posterior rectus sheath and have to use 1.5cm bridging sac for anterior rectus sheath closer. This helped recovery of patient without wound morbidity.

So, in all these cases use of peritoneal flap with Rives Stoppa and transverse abdominis release helped in good recovery with less or no mortality and morbidity.

Lazaro da silva (1979) first used peritoneal flap for the repair of large medial or paramedian incisional hernias⁽¹⁾. Initially he used peritoneal flap without mesh. Peritoneal flap was used as continuation (extension) of anterior and posterior rectus sheath. (figure 4) He concluded hernia sac had good resistance and had good healing properties, it restores abdominal wall anatomy and it achieves tensionless repair. Da-Silva documented 13.2% recurrence after 4 years in 132 patients⁽¹⁾. Hope P.G. also had similar finding in his series of cases⁽²⁾.

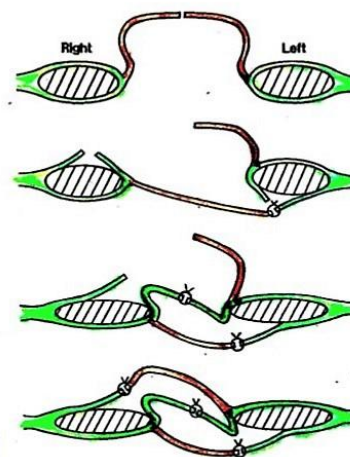


Figure 4: source; club-hernia- mesh.com Marc Huyghe. The use of peritoneal flap in the repair of large incisional hernia. GZA ,ST. Augustns Hospital.Mesh,2017. paris.<https://www.club-hernie-mesh.com/img/communications/2017/07.pdf>

Later the technique was modified with mesh sandwiched between the two flaps as Da silva sandwiched mesh repair^(3,4,5). It resulted in reduction in recurrences.

This technique can be a part of Rives Stoppa (figure 5), Transverse abdominis

muscle (Yuri Novisky) release or Ramirez anterior component separation ⁽⁶⁾.

Peritoneal Flap hernioplasty

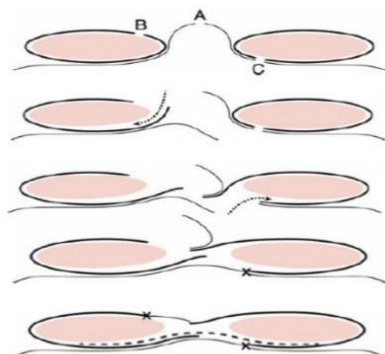


Figure 5: Source; club- hernia-mesh.com
Agneta Montgomery. The Malmo abdominal flap technique for large ventral hernia. Department of surgery. Malmo, Sweden. <https://www.club-hernia-mesh.com/img/communications/2017/07.pdf>

Michael f. Nielsen, Andrew de Beaux used this technique of peritoneal flap hernioplasty for large ventral hernias both midline and lateral. They published their article in May 2019. They used this technique in 251 patients of large midline and lateral ventral hernias ⁽⁷⁾. They documented 2.8% recurrence after 75 months follow-up ⁽⁷⁾. Later it was found that this technique was also useful in large transverse incisional hernias by M.F. Nelson et al ⁽⁸⁾.

We find use of peritoneal flap with posterior sheath a better option than using vicryl mesh in difficult tensionless posterior rectus sheath closer as also suggested by Magdy a sorour in his work ⁽⁹⁾. Similarly using hernia sac with anterior rectus sheath is better than bridging mesh or anterior sheath relaxing incisions as done in clotteau Premont procedure.

Advantage of this technique is it avoids unnecessary subcutaneous flap creations; it isolates mesh from skin and peritoneal structures. This prevents post-operative seroma and hematomas and wound necrosis as it preserves periumbilical perforators. This allows use of regular proline mesh. It results in less intra-

abdominal adhesions and less surgical site infection after major hernia repair.

Disadvantage of this procedure is, as no attempt is made to approximate the rectus abdominis muscle. There is likely to develop rectus diastasis in post-operative period.

At the time of closer of anterior rectus sheath excess sac should be trimmed to avoid bridging repair as we all know large bridging may give inferior result with respect to quality of life and recurrence.

CONCLUSION

Da- silva, Malmo peritoneal flap should be integral part of abdominal wall repair procedures. It reduces cost, morbidity and mortality of a large ventral hernia repair. It is a useful method for repair of large ventral and incisional hernia when primary fascial closer is not achievable. ⁽¹⁰⁾ Further larger studies in india will help to validate our findings.

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