Outcomes and Costs of Open Incisional Hernia Repair with Retromuscular ProGrip™ Mesh, a Retrospective Case Series.

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Introduction:

Incisional hernias are a common complication of abdominal surgery, they lead to a spectrum of symptoms ranging from abdominal discomfort and reduced quality of life to bowel incarceration or ischemia. One of the most widely used repair techniques is the open retromuscular repair (i.e. Rives-Stoppa procedure) following posterior component separation¹. This study examines the feasibility of using a self-fixating mesh (ProGrip™). The use of this mesh has been proven to be safe, and was reported to have fewer early complications and better outcomes in comparison to other mesh types².

Methods:

A series of cases (n=33) were performed at the Jewish General Hospital, Montreal, Quebec. Sequential cases done between March 2013 and December 2015 were prospectively entered into the study database; however, some variables were retrospectively collected. Data collected included patients characteristics and perioperative measures. The primary outcome was early recurrence. The secondary outcomes were complication occurrence and treatment cost using Med-GPS data. Follow up included a clinical exam at 1-2 months and to identify complications and early recurrences.

Results:

Thirty three patients underwent an open incisional hernia repair with retrorectus ProGrip™ mesh placement during the study period. Table 1 details the patient characteristics. All patients received perioperative antibiotics and DVT prophylaxis. Operative data can be found in table 2. The mean OR date to last clinic follow up visit was 5.52 months, while mean OR date to data review date was 28.74 months. No patient had evidence of recurrence on clinic follow up or on imaging when used.

Complications : Postoperative complications occurred in 21.21% of the cohort (n=7), with a median Clavien grade of 2. None of the complications required a reoperation. Four patients had superficial surgical site infections that required antibiotics in addition to packing the wound; one patient had a seroma that was aspirated; one had a superficial hematoma that was treated non-operatively and one patient had urinary retention postoperatively that required a Foley catheter insertion.

Imaging: 33% of the cohort underwent postoperative imaging (CT ± US), none were found to have evidence of recurrence.

Costs: A sub-analysis was done on 10 patients to calculate the mean hospital cost was \$3,533.87 Canadian dollars (all inclusive, total cost of admission, lab work, medications, anesthesia, surgical equipment and procedure). The mean implant cost was \$253.

Conclusion:

Recent literature shows that the Rives-Stoppa repair with posterior component separation is safe, feasible and favorable for complex incisional hernias. Table 3 compares our outcomes to similar studies in the literature. To the best of our knowledge our study is the largest for open retrorectus incisional hernia repair with ProGrip™ mesh.

Table 1. Patient's characteristics

Age, year	61.2 ± 10.8
Female gender, % (n)	63.6 (21)
BMI, kg/m ²	31.7 ± 6.7
Comorbidities %, (n)	
- Cardiac Disease	21.2 (7)
- Smoking status	12.1 (4)
- DM	33.3 (11)
- HTN	48.5 (16)
- Obesity ≥ class II	27.3 (9)
- History of malignancy	36.4 (12)
- Asthma	15.1 (5)
Recurrent Incisional hernia, % (n)	30.3 (10)

Table 2. Operative data

Operative time, minutes	87 ± 48 (30-283)
ASA score	2.2 ± 0.5 (1-3)
Defect size (avg. largest diameter), cm (range)	8.88 ± 5.2 (4-30)
Mesh size, n*	
- 15 cm x 9 cm	29
- 15 cm x 20 cm	3
- 15 cm x 30 cm	6

*Some patients required the use of more than one mesh

Table 3. Outcomes

Cohort	AlShahwan	Verhelst ³	Hopson ⁴
Population (n)	33	28	20
Mean follow up (Months)	28.7	4	24
Avg. largest hernia defect (cm)	8.88	10	9.2
Average Hospital LOS (Days)	2.5	5	0
Complications	7	7	1

Disclosure:

The authors have nothing to disclose.

References:

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