Laparoscopic Ventral Hernia Repair with Biodegradable/Porous PTFE Composite Mesh: A Single Institution Experience

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Background

- In treating ventral hernias, the paradigm shift to a minimally invasive mesh repair has led to significant reduction of recurrence rates, as well as perioperative complications.
- Today, minimally invasive ventral hernia repairs remain the standard of care for ventral hernias. While multiple studies have looked at different types of mesh for ventral hernia repairs, there remains no clear benefit to using one type over another.
- We present our experience using a composite mesh of a biological matrix, BIO-A web scaffold and macroporous, monofilament PTFE (GORE Synecor) to add to the existing literature.

Methods

- We retrospectively reviewed the outcomes of all patients who underwent laparoscopic hernia repairs in our institution from March 2017 to September 2020 using Synecor mesh.
- Our technique involves primary fascial closure and Intraperitoneal Onlay Mesh (IPOM) placement with endoscopic component separation when indicated.
- We evaluated patient demographics, operative parameters, morbidity, follow-up time, and recurrence.

Sample Size	74	
Age (avg)	55.2	23-76
Size of fascial defect (42 entries)	6cm	1.5-11
Operating Time (avg)	91	38-204
Length of Hospital Stay (avg)	1.63d	1-13
Hernia reoperations	2	2.7%
Bowel resection	1	1.40%
Swiss Cheese hernia	11	14.80%
Umbilical vs Ventral hernias	1 vs 73	
Incarceration?	74	100%
Incisional	51	68.90%
Conversion to open	0	
Follow up time (m) (avg)	10.8	0-37
Hernia recurrence (avg)	5	6.70%
Infections	2	2.70%
Seroma	2	2.70%

Results

- We collected a sample of 74 patients, 35 females and 39 males, with mean age of 55.2 years (23-76).
- Our average BMI was 32.9 (21.6-51.9) with 23 patients (31.1%) having a BMI >35.
- 51 patients (68.9%) had incisional hernias with an overall mean size of 6 centimeters in largest diameter (1.5-11). The mean operative time was 91 minutes (38-204) with average length of stay of 1.6 days (1-13).
- The average follow-up time was 12.2 months (0-37) with 13 patients (17.5%) having at least 24 months of follow-up.
- Only 5 patients (6.7%) were found to have recurrent hernias on follow-up.
- Other complications included 2 infections, 2 seromas, temporary abdominal wall neuralgia in 3 patients, aspiration and ventilator requirement in 1 patient as well as 1 patient with extended post operative ileus requiring TPN.



1 month



29 months

- This results in a 12.1% perioperative complication rate.
- Interestingly, both mesh infections were managed without mesh removal with long-term resolution of infection as well as no recurrence at 29 months in one patient where the other was lost to follow up after 1 month. (see right)

Conclusion

- Our results show that Synecor mesh is a safe and durable mesh. This is seen even in morbidly obese patients.
- In very limited data, other encouraging results were that we were able to treat 2 different mesh infections without mesh removal or hernia recurrences.

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