The Utilization of an Absorbable Mesh after Ostomy Reversal Does Not Decrease Incisional Hernia Rates

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OBJECTIVE

In this study, we seek to investigate if the use of an absorbable mesh in patients undergoing stoma reversal decreases the incidence of incisional hernias postoperatively.

INTRODUCTION

Postoperative ostomy reversal hernias are common and can create strain on the healthcare system. Stoma site hernias continue to be underreported, underappreciated and delayed morbidity in patients.

There is little literature evaluating the utilization of absorbable mesh following ostomy reversal. The effect on subsequent hernia rates at our institution has not been evaluated. We examine if the addition of absorbable mesh decreases the postoperative hernia rate in our patient population.

	Hernia recurrence	P-value
Type of stoma		
- **Ileostomy**	16/145, (11.0%)	**0.212**
- **Colostomy**	12/70 (17.1%)	
Fascia closure type		
- **Running**	18 (15.9%)	**0.183**
- **Interrupted**	10 (9.8%)	
Mesh type		
- **Bioprosthetic**	2/30 (6.7%)	**0.5620**
- **Biological**	4/37 (10.8%)	
Mesh location		
- **Underlay**	2/40 (5%)	**0.0479***
- **Onlay**	4/27 (14.8%)	

Table 3: Mesh type, placement and recurrence rates

METHODS

Retrospective review of all ileostomy and colostomy reversals performed at Saint Francis Hospital from January 2015 through July 2018.

Patients that had permanent mesh placed at the time of reversal or underwent a hernia repair but did not undergo an ostomy reversal were excluded.

Patients were divided into two groups (mesh) vs control (no mesh/primary suture closure) at the time of ostomy closure. Study endpoints included the development of an incisional hernia at the stoma site, a surgical site occurrence (SSO) or a surgical site infection (SSI).

RESULTS

A total of 303 patients underwent ostomy reversal during the study period and 215 patients met inclusion criteria. The control group consisted of 148 patients who were reversed without mesh reinforcement. Sixty-seven patients received mesh reinforcement and were included in the interventional group.

Hernia recurrence rates were lower in the group that had mesh reinforcement (8.96%) vs the group that did not receive a mesh (14.8%) though this was not statistically significant (p=0.233).

RESULTS

There was no significant difference in the overall mesh complications rates including SSO/SSI between the two groups.

	Mesh Reinforcement (n=67)	No Mesh Reinforcement (n=148)	P-value
Overall recurrence rate	6 (8.96%)	22 (14.8%)	0.233
Recurrence rate by stoma type			
- **Ileostomy (n=145)**	4/48 (8.3%)	12/97 (12.4%)	0.465
- **Colostomy (n=70)**	2/19 (10.5%)	10/51 (19.6%)	0.370
Recurrence rate by pathology			
- **Benign**	5/51 (9.8%)	17/107 (15.9%)	0.302
- **Malignant**	1/16 (6.3%)	5/41 (12.2%)	0.511
Recurrence rate by location of mesh			
- **Underlay**	**2/40 (5%)**	**NA**	**0.0479**
- **Overlay**	**4/27 (14.8%)**		
Recurrence rates by type of mesh			
- **Biological mesh**	2/30 (6.7%)	**NA**	**0.5620**
- **Bioprosthetic mesh**	4/37 (10.8%)		
Recurrence rate fascial closure type			
- **Running**	3/31 (9.7%)	15/82 (18.3%)	0.264
- **Figure of 8**	3/36 (8.3%)	7/66 (10.6%)	0.712
Recurrence rate			
- **Chemotherapy**	0/15 (0%)	4/34 (11.7%)	0.166
- **Radiation**	0/15 (0%)	4/23 (17.4%)	0.088

Table 4: Hernia recurrence rates

CONCLUSIONS

Prophylactic use of an absorbable biosynthetic mesh did not alter the rate of incisional hernia rates following ostomy reversal in our cohort of patients. **Published in the American Journal of Surgery May 2023 PMID: 37301644**