



Preoperative Weight Reduction Results in Lower Recurrence Rate Following Abdominal Wall Reconstruction in Obese Patients



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Background

- Morbidity in abdominal wall reconstruction (AWR) has been associated increase perioperative complications
- Specifically, increased increased surgical site occurrences (SSOs), increased recurrence rates^{1,2}
- Additionally, there has been noted Increase need for postoperative interventions, longer LOS, readmission rates^{1,2}
- In our elective practice, adults with obesity (BMI ≥ 30) are counseled to attempt weight loss prior to (AWR) surgery.
- The purpose of this study is to determine if the weight loss was associated with decreased recurrence rates and/or SSOs.

Methods

- Retrospective review of a prospectively maintained cohort of consecutive patients undergoing elective open complex incisional hernia repair with component separation
- Cases completed between 2014 and 2018
- Patient comorbidities, operative factors, and complication were reviewed
- Primary outcomes were surgical site infection and recurrence of hernia following repair.

Results

Table 1	No weight loss Gained Weight	Successful Preop Weight loss	p-value
N	55	54	
BMI (in kg/m^2), mean (SD)	38.8 (6.8)	34.8 (4.7)	<0.001
Initial, mean (SD)	38.8 (6.8)	37.6 (6.0)	0.36
Final, mean (SD)	38.8 (6.8)	34.8 (4.7)	<0.001
Total BMI Loss, mean (SD)	0.0 (0.2)	-2.8 (2.5)	<0.001
Percentage Excess BMI Loss, mean (SD)	0.0 (0.0)	-0.2 (0.1)	<0.001
Operative Time, median (IQR)	210.0 (160.5, 261.5)	204.0 (172.0, 259.0)	0.85
Mesh Type			0.003
Non-Strattice	52 (95%)	40 (74%)	
Strattice	3 (5%)	14 (26%)	
Mesh Location			0.12
Intraperitoneal	55 (100%)	51 (94%)	
Retrorectus	0 (0%)	3 (6%)	
Mesh Size (cm^2), median (IQR)	277.5 (255.0, 293.0)	220.0 (200.0, 250.0)	0.027
Extensive Lysis of Adhesions	35 (64%)	18 (33%)	0.002
Intraoperative Enterotomy	2 (4%)	1 (2%)	0.52
Negative Pressure Wound Therapy	12 (22%)	16 (30%)	0.35
perfsparing	46 (84%)	45 (83%)	1.00
COPD	4 (7%)	2 (4%)	0.41
Smoking in last 1 year	3 (5%)	5 (9%)	0.45

	No weight loss Gained Weight	Successful Preop Weight loss	p-value
Table 2			
N	55	54	
BMI (in kg/m^2), mean (SD)	38.8 (6.8)	34.8 (4.7)	<0.001
Total BMI Loss, mean (SD)	0.0 (0.2)	-2.8 (2.5)	<0.001
Surgical Site Occurence	11 (20%)	14 (26%)	0.46
Surgical Site Infection	3 (5%)	6 (11%)	0.28
Post-operative Seroma	6 (11%)	4 (7%)	0.53
Post-operative Hematoma	1 (2%)	2 (4%)	0.55
Postoperative Recurrence	7 (13%)	1 (2%)	0.029

Results

- The average BMI was 38.2 kg/m2 (SD: 6.4) at the initial evaluation. 49.5% (n = 54) were successfully able to lose weight prior to their operation.
- The mean total weight loss in this group was 3.4 kg/m2 (range: 0.06 - 11.7 kg/m2).
- Surgical site occurrence was similar in both groups (26% vs 20%, p = 0.46).
- The weight loss cohort was less likely to have postoperative hernia recurrences with a mean follow up time of 64 months (2% vs 13%, p =0.03).

Conclusions

- Obesity is a known risk factor for the development of incisional hernias,
- Increased weight is also associated with perioperative morbidity.
- We have demonstrated that weight reduction prior to elective AWR is associated with decreased recurrence of hernias in this population.
- Preoperative weight loss programs in conjunction with abdominal wall reconstruction programs may be warranted.

References

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