Robotic Ventral Hernia Repair in the Community Setting: 4-Year Follow Up

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Background

Ventral hernia repair is one of the most common surgeries performed by general surgeons. Minimally invasive techniques have become increasingly more popular among surgeons and patients. There are limited studies looking at the long term recurrence rates with minimally invasive techniques. In this study, we aim to look at the recurrence rates of robotic ventral hernia repairs from 2014 to 2018 giving us a 4+ year follow up..

Methods

We performed a prospectively collected, retrospective study of patients who underwent robotic ventral hernia repair in the UPMC Central Pennsylvania system between 2014 and 2018. Patient demographics, co-morbid conditions and post-operative complications were tracked. We manually reviewed the electronic medical record and documented hernia recurrences and if re-operation occurred.

Results

121 patients had robotic ventral hernia repairs during this time period. Mean age was 59.5 years, mean BMI was 34.6, 49 (40.5%) were male and 72 (59.5%) were female. The most common type of mesh used was Ventrio ST (34, 38%) and the most common location of mesh was intraperitoneal onlay (103, 95%). 41 (34%) of patients had a hernia recurrence within our follow up period. COPD (5, p=0.0436) and post-operative seroma (9, p=0.022) were the only factors found to be significantly associated with recurrence.

	Recurrence	No Recurrence	P-Value
Total Number of Patients	41	80	
Age-Mean (SD)	58 (13.1)	60.2 (12.9)	0.36
Gender (M/F)	31%/69%	45%/55%	0.16
BMI-Mean (SD)	36.2 (7.2)	33.7 (7.2)	0.07

Table 1: Patient Demographics

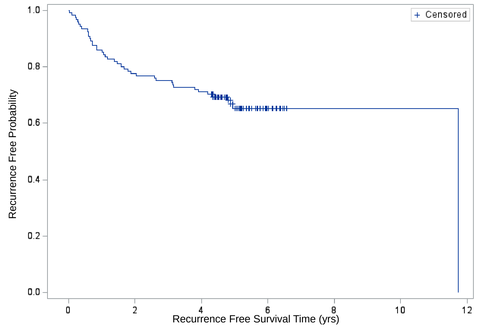


Figure 1: Kaplan Meir Curve of Recurrence Free Survival

	Recurrence	No Recurrence	P-Value
Obesity (BMI>30)	35	57	0.085
Current Smoker	4	18	0.085
Former Smoker	10	23	0.610
Diabetes	9	12	0.339
COPD	5	2	0.044
CAD_MI	3	8	0.748
Renal Failure	2	6	0.715
Steroid	0	3	0.550
Anticoagulation	10	20	1.000
ASA 3-4	25	46	0.713
SSI	7	7	0.230
SSO	6	5	0.181
Seroma	6	5	0.181

Table 2: Patient Risk Factors

Discussion

Our study has the advantage of looking at robotic ventral hernia repair outcomes over a 4 year follow up period. During our literature review, we were unable to find a study with equivalent or longer robotic ventral hernia repair follow up. The overall hernia recurrence rate was 34% and the significant factors related to recurrence was COPD and post-operative seroma. The long follow up period of our study offers a unique look at the outcomes of robotic ventral hernia repair in our hospital system.

References

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