Laparoscopic Abdominal Wall Reconstruction: A Single Institution Case Series

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Introduction

Large abdominal wall hernias pose a significant challenge for repair. Abdominal wall reconstruction is a well-established practice. While a robotic approach has technical and ergonomic benefits, these are costlier than the laparoscopic approach. Many hospitals do not have access to robotics. Our centre has performed laparoscopic abdominal wall reconstruction (Transversus Abdominis Release/Rives-Stoppa) in consecutive patients over the last four years. This project aims to evaluate the outcomes of laparoscopic abdominal wall reconstruction performed by a single surgeon at a busy single institution.

Methods

Local ethics were obtained for a case series evaluation. Data on patient demographics, co-morbidities, defect size, operative details, complications and postoperative length-of-stay were extracted. Patients were followed up to collect quality-of-life data using the “36-Item Short Form Survey” (SF36). Data was collected and analysed in Microsoft Excel.

Demographics

Ten consecutive cases were performed between 04/07/2019 - 08/08/2023.

Demographics	Male:Female	Age	BMI	Charlson Co-Morbidity	Smoking	Average area of the defect
	4:6				9 Non-smoker 1 Ex-smoker	42.6cm (Range: 16.8-70cm)
Median (Range)		54 (38-67)	37 (23-50)	0 (0-2)		

Operation

Operation time	Mesh	Drains	Estimated Blood Loss
Median: 265 minutes (Range: 38-420 minutes)	7 – Flat Polypropylene mesh 2 – Phasix Mesh 1-THT BioScience Mesh	7 – 2 x 16Fr Suction drain 1 – 1 x 24 Robinson’s Drain 1 – 1 x 16Fr Suction drain 2- None	<30ml

Post Operation

- 30% (3/10) patients had a grade 2 CTCAE (1, chest infection, 1 infected haematoma, 1 wound infection).
- 7 patients had no complication.
- Median length of stay was 4 days (Range 1-6 days).
- No patients were re-admitted to hospital. No patients had a recurrence.

Quality of life

SF36	Mean
Physical functioning	**59**
Role limitations due to physical health	**50**
Role limitations due to emotional problems	**67**
Energy/fatigue	**54**
Emotional well-being	**69**
Social functioning	**73**
Pain	**69**
General Health	**54**

Median follow-up questionnaires were performed with a median of 39 months post-procedure (range: 12-60 months).

Conclusions

This case series shows a laparoscopic approach to abdominal wall reconstruction is safe with low risk of recurrence and also positive quality of life experience months following the procedure. In the absence of robotic access, laparoscopic abdominal wall reconstruction, in experienced hands, remains an excellent option for patients, delivering significant benefits at substantially lower costs.

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