Exploring Patient-Reported Quality of Life After Complex Abdominal Wall Reconstruction: A Qualitative Study

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Introduction

- Concurrent **Ventral Hernia Repair with Panniculectomy (VHR-PAN)** is performed for large complex ventral or incisional hernias associated with excessive soft tissue to improve abdominal contour
- Common causes of hernias requiring VHR-PAN include trauma, infection, and malignancy
- These patient populations correlate with higher **morbidity rates, reduced quality of life, and increased healthcare expenses**
- There is a paucity of published literature on patient-reported outcomes following VHR-PAN, despite it being a **safe and cosmetically beneficial option**

Objectives

- **Primary objective:** To evaluate patient-reported outcome measures (PROMs) in patients undergoing complex abdominal wall reconstruction with VHR-PAN
  - Physical well-being
  - Emotional health
  - Psychosocial quality of life
- **Secondary objective:** To perform a qualitative synthesis of major themes of patient experiences arising from complex surgical management

Methods

- **Study design**: Single-centre qualitative study
- **Population**: Patients >18 years old who underwent elective VHR-PAN at St. Paul's Hospital (January 1, 2014 - January 1, 2024)
- **Excluded**: CDC Class IV, parastomal hernias
- **Analysis**:
  - Descriptive summary statistics
  - Braun & Clarke's thematic analysis
  - Dual independent interview coding until thematic saturation
- **Data Collection:**
  - Semi-structured interviews
  - Likert questions (PROMs)
  - Open-ended discussions

Study Limitations

- **Small sample size** (n=13)
- **Predominantly female patients** (12/13)
- **Single-center study**
- **Retrospective study design**
- (recall bias and confounding factors)
- **Self-selection bias** (higher rates of postoperative complications)

Results

Table 1. Patient Demographics and Mesh Details

Female (%)	12 (92.3%)
Age Mean (SD)	61.4 (9.0)
BMI Mean (SD)	39.1 (7.1)
ASA Physical Status Median	II
History of smoking (%)	
Never	9 (69.2%)
Within last year	0 (0.0%)
Ever	4 (30.8%)
Diabetes (%)	
Yes	1 (7.7%)
No	12 (92.3%)
Immunosuppression (%)	
Yes	1 (7.7%)
No	12 (92.3%)
COPD (%)	
Yes	2 (15.4%)
No	11 (84.6%)
Recurrent incisional hernia (%)	
Yes	7 (53.8%)
No	6 (46.2%)
History of prior abdominal wall infections (%)	
Yes	3 (23.1%)
No	10 (76.9%)

Table 2. Operative Details

Type of Mesh (%)	
Ventralight	4 (30.8%)
Polypropylene	7 (53.8%)
Prolene	1 (7.7%)
Phasix	1 (7.7%)
Location of Mesh Placement (%)	
Intraperitoneal	5 (38.5%)
Onlay	8 (61.5%)
Mean Hospital Length of Stay (Days, SD)	5 (2.0)

Table 3. Surgical Site Complications

Surgical Site Infection	5 (38.5%)
Seroma	3 (23.1%)
Stitch Abscess	1 (7.7%)
Skin or Soft Tissue Ischemia	1 (7.7%)
Infected or Exposed Mesh	1 (7.7%)
Chronic Pain	1 (7.7%)

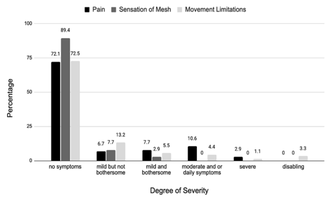

Figure 1. Percentage of Patients Reporting Pain, Sensation of Mesh, and Movement Limitations

Table 4. 30-Day Adverse Events and Complications

Acute Renal Failure	3 (23.1%)
Reoperation/Procedure	2 (15.4%)
Pulmonary Embolism	1 (7.7%)
Prolonged Ventilation >48h	1 (7.7%)

Hernia-Related Quality-of-Life (HerQLes) Survey

Range: 0-100

Higher score indicates better quality of life

Mean: 75.51 (SD = 25.13)

Median: 86.67 (IQR = 31.67)

Carolinas Comfort Scale (CCS)

Range: 0-40

Lower score indicates better quality of life

Mean & SD:
A) Pain: 5.23 (8.10)
B) Sensation of Mesh: 1.08 (2.06)
C) Movement Limitations: 4.08 (7.01)

BODY-Q Surveys

Range: 0-100

Higher score indicates better quality of life

A) Satisfaction with Abdomen: 56.67 (44.90)
B) Appearance-Related Psychosocial Distress*: 22.69 (32.17)
C) Body Image: 49.62 (39.35)
D) Satisfaction with Surgeon: 92.92 (10.10)
E) Satisfaction with Information: 81.38 (34)
F) Satisfaction with Medical Team: 91.69 (10.45)

*For this specific element, a higher score indicates worse quality of life

Figure 2. Patient-Reported Outcomes

Main Qualitative Themes and Quotes

1. Improved Image & Self-Perception
- "I think it's better than before. The hernia I had before was huge and it was really ugly…**I felt really self conscious about it, even with my husband.**"
- "So **I feel much less disfigured…not somebody with this huge protrusion**, and it was really big."

2. Psychosocial Distress & Uncertainty
- "I feel depressed. I feel anxious. It's not perfect [but] **it's definitely not as bad as it was.**"
- "That was the **third time that...surgery had been done**...other surgeons had attempted a hernia repair…and, well, the result was it didn't work."

3. Recovery Process
- "I just must admit I kind of **followed my own body's discretion** because I healed very quickly."
- "**I kind of hold myself back** even though I could probably do [activities of daily living]. **I just worry if I do it too much then that might cause my hernia to come back** or whatever the case is."

4. Pain & Complications
- "I did have quite a **bad infection**...you know that smell when somebody is has infection inside, yeah? So I knew that I smelled like that."
- "I was just kind of surprised at how painful the post op was. I don't feel like I was prepared for that. **I knew [the recovery] was going to be at least four to six weeks…I just didn't realize it was going to be that painful**."

5. Satisfaction, trust, and communication with the surgeons and staff
- "I have the utmost respect for both of the surgeons and the team because **they totally changed my life in a heartbeat**. From the time that I found out about it to going through all the different medical staff that I had to go through, **there's not one time that I could honestly tell you that I felt afraid or scared. They were very, very comforting**."
- "I am incredibly grateful for the surgery. It changed my life in ways that I couldn't even imagine how it's changed my life. **It gave me my life back, to be honest with you**"

Future Direction

- **Future Research**
  - Prospective study design to capture quality of life along a timescale at baseline, perioperatively, and postoperatively
  - Long-term follow-up
- **Collaboration with Patient Population**
  - Comprehensive educational materials and take-home resources
- **Peer-to-Peer Support Networks**
- **Improved Healthcare Provider Communication**

Conclusion

- Further research is needed to evaluate long-term patient-reported outcomes and quality of life following VHR-PAN