ROME (Robotic Mesh Explantation) A versatile approach utilizing the Robotic platform in symptomatic patients with chronic pain or recurrent hernias requiring mesh explantation.

Cosman Camilo Mandujano MD[1], Xavier Pereira MD[2],Gustavo Romero Velez[3],Flavio Malcher MD[4] ,Brian Jacob MD[5]
[1]Montefiore Medical Center,[2]Albert Einstein College of Medicine, [3]Mount Sinai

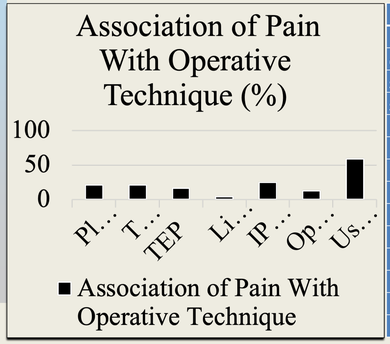
BACKGROUND

Chronic pain following hernia repair affects 10-12% of patients with an estimated 6-8% of mesh-related complications requiring explantation. Reoperation with mesh explantation poses a surgical challenge due to adhesions, scarring, and mesh incorporation to the surrounding tissues. Robotic technology provides a safe platform for enhanced exposure to tackle these complex cases.

METHODS

Observational Study of 29 patients who underwent a robotic mesh explantation (ROME) for mesh-related chronic pain or recurrent ventral hernias requiring mesh explantation between
March 2016 and January of 2020. The patients were evaluated for resolution of mesh-related abdominal pain and early postoperative complications.

Hernia Characteristics	n (%)
Hernia location	
Ventrals	
Umbilical	4 (40)
Incisional	2 (20)
Subxiphoid	1 (10)
Epigastric	2 (20)
Infraumbilical	1 (10)
Inguinals	
Right	6 (32)
Left	5 (26)
Bilateral	4 (21)
NR	4 (21)
Operative technique prior hernia repair	
Inguinal hernia	
Plug and Patch	8 (42)
TEP	6 (32)
TAPP	5 (26)
Ventral	
IPOM	5 (50)
Open	4 (40)
Laparoscopic Spigelian	1 (10)
Use of tackers	
Inguinal	8 (42)
Ventral	6 (60)
Recurrence from Prior Repair	
Inguinal	7 (37)
Ventral	3 (30)



Clinical Characteristics	Inguinal n (%)	Ventral n (%)
Indication for mesh removal		
Chronic Pain	12 (63)	9 (90)
Hernia Recurrence	5 (26)	1 (10)
Hernia recurrence and chronic pain	2 (11)	0
Preoperative pain mapping		
Ilioinguinal nerve	7 (37)	1 (10)
Ileo-hypogastric	1 (5)	1 (10)
Genitofemoral	1 (5)	1 (10)
lateral-femoral cutaneous	1 (5)	0
No pain	3 (16)	2 (20)
No pain mapping	9 (47)	6 (60)
Chronic Pain and previous repair		
Inguinal pain	14 (74)	
Plug and Patch	5 (26)	
TAPP	4 (21)	
TEP	5 (26)	
Use of tackers	7 (37)	9 (90)
IPOM		6 (60)
Open		3 (30)

Perio-operative Results	Inguinal n (%)	Ventral n (%)
Complications		
Serosal tear	0	2 (20)
Seroma	4 (21)	0
No	15 (79)	8 (80)
Post-operative symptoms		
Resolution of pain	12 (63)	5 (50)
Persistence of symptoms	3 (16)	5 (50)
N/A	4 (21)	0
Median LOS (range)*	0 (0-1)	0 (0-4)
Median Follow up (range)*	18 (1-284)	19 (11-186)
Recurrence	1 (5)	0

RESULTS

Twenty-four patients (82.7%) reported preoperative mesh-related abdominal pain. Eight patients (27.5%) with or without preoperative mesh-related pain required explantation during the repair of a recurrent ventral hernia. Plug/patch, TAPP, and eTEP were the most common index operations.

Seventeen patients (70.8%) reported resolution of pain postoperativel.

Five patients (17.2%) with a non-recurrent hernia required mesh reinforcement after explantation. Sixteen patients (55.1%) underwent mesh explantation with a primary repair or no mesh reinforcement.

The most common postoperative complication was seroma formation (6.8%), with no recurrent hernias reported in the early postoperative period.

CONCLUSIONS

Robotic mesh explantation in challenging cases with chronic scarring, adhesions, and mesh incorporation is safe and provides an advantageous platform for concomitant hernia repair in these complex cases.