

Postoperative outcomes from robotic versus open ventral hernia repair surgery: A single-center retrospective cohort study

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Background:

- Recent advances in technology have allowed robotic techniques to be applied to ventral hernia repair surgery
- We sought to determine postoperative outcomes following robotic (RVHS) versus open (OVHS) ventral hernia repair

Methods:

- 159 patients included in the retrospective study
- Primary outcome: postoperative length of stay (LOS)
- Secondary outcomes: ICU days, operative duration, Clavien-Dindo (CD) score, death, and readmission within 30 days to the hospital

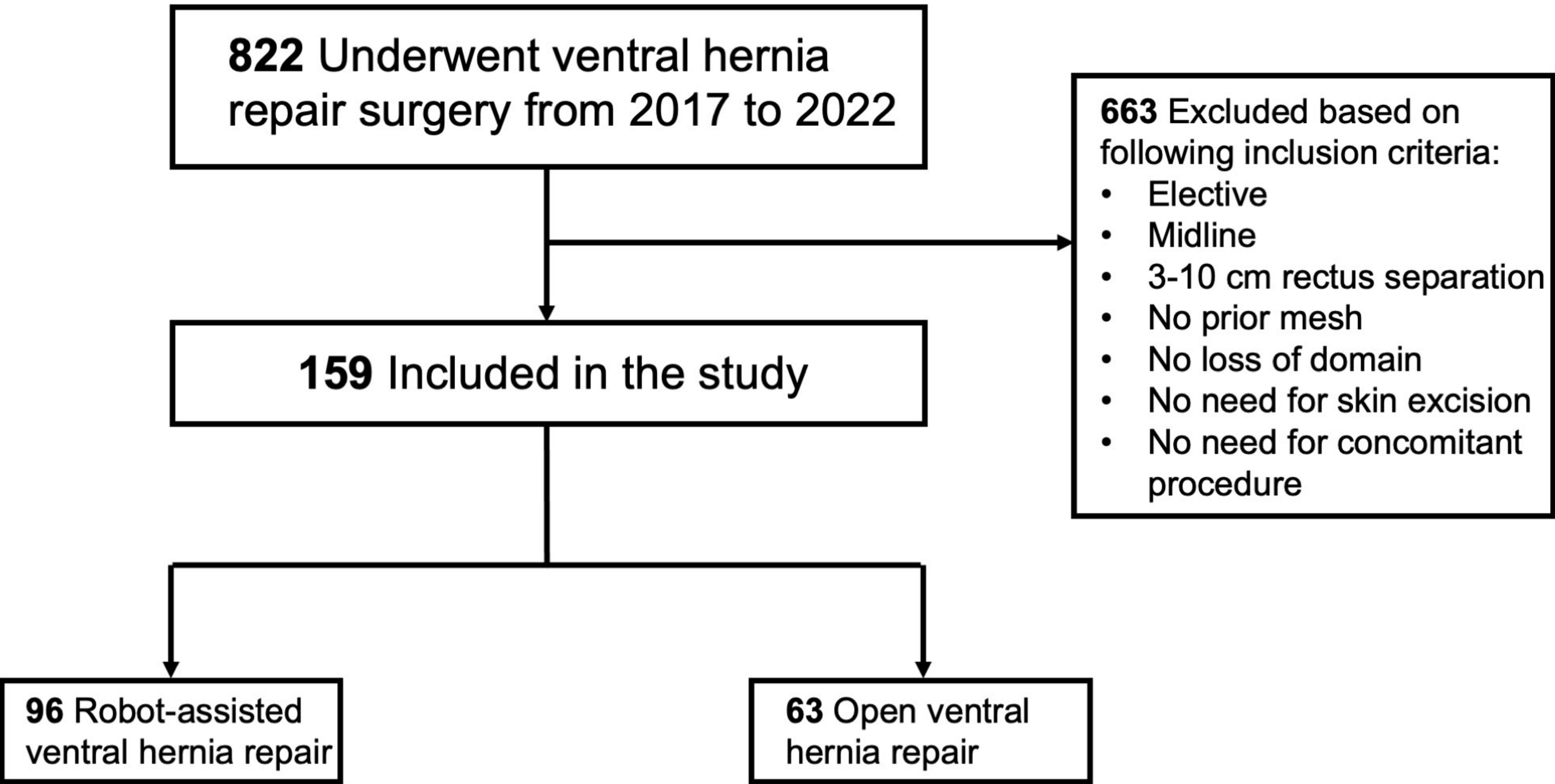


Figure 1. Flow diagram of patients included in this retrospective study

Robotic ventral hernia surgery repair reduces postoperative length of stay and may decrease postoperative ICU stay compared to open ventral hernia repair

Results:

Table 1. Baseline hernia characteristics

	Robot	Open	P value
Hernia type, n (%)			0.379
Primary	20 (21)	9 (14)	
Incisional	76 (79)	55 (86)	
Hernia size, mean (SD), cm			
Length	7.8 (6.6)	7.7 (5.2)	0.912
Width	4.9 (3.4)	6.1 (3.3)	0.024
Mesh location, n (%)			<0.001
Onlay	3 (3)	2 (3)	
Inlay	0 (0)	5 (8)	
Sublay	3 (3)	20 (31)	
Underlay	88 (92)	30 (47)	
No mesh	2 (2)	7 (11)	

Conclusion:

- LOS was on average 1.62 days shorter for RVHS than OVHS
- Patients who underwent RVHS had fewer postoperative ICU days, although this did not reach statistical significance
- No deaths in patients who underwent RVHS
- Long-term studies are needed to determine whether the improvement in outcomes translate to improved patient quality of life and reduction in costs

Table 2. Postoperative outcomes after robot vs open ventral hernia repair

	Robot	Open	Adjusted Difference* (95% CI)	P value
LOS, mean (SD), days	1.5 (1.5)	3.7 (3.1)	-1.62 (-2.67, -0.56)	0.003
ICU stay, mean (SD), days	0 (0)	0.1 (0.9)	-0.22 (-0.45, 0.02)	0.072
OR duration, mean (SD), minutes	163.4 (65.2)	151.1 (81)	28.87 (-4.12, 61.85)	0.086
Clavien-Dindo score, n (%):				
1-2	95 (99)	57 (90)	ref	ref
3-5	1 (1)	6 (10)	0.22 (0, 15.96)	0.494
Death, n (%)	0 (0)	1 (2)	NA	NA
Readmissions, n (%)	2 (2)	5 (8)	0.73 (0.03, 16.38)	0.842

LOS = Length of stay, ICU = Intensive care unit

*Adjusted mean differences or odds ratios with robot vs open (reference group) ventral hernia repair



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