Variation in Approach for Midsize (4-6cm) Ventral Hernias

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Background

- Few guidelines address operative management of midsize (4-6cm) hernias
- Surgical approach at a population level is currently unknown
- Study objectives: to characterize variation in surgical approach among patients with mid-size hernias in a population-level registry

Methods

- Population: Adults age >18 undergoing ventral hernia repair with hernias 4-6cm
- Time frame: Jan 1 2020-June 30, 2022
- Data source: Michigan Surgical Quality Collaborative Core Optimization Hernia Registry (MSQC-COHR)
- Primary outcome: Surgical approach (MIS vs Open)
- Analysis: Multivariable logistic regression model

Results

- N=771 patients, mean hernia width 4.7cm, 56% open
- Patient and hernia characteristics demonstrated in the **Table.**
- No significant differences in age, sex, or comorbid conditions
- MIS: Lower BMI, smaller hernia width, more mesh
- Open: More urgent/emergent, more myofascial release
- Multivariate analysis: Only higher BMI and urgent/emergent repair associated with lower MIS use
  - BMI: aOR 0.97(95% CI 0.95-0.99)
  -Urgent/Emergent: aOR 0.43 (95% CI 0.24-0.79)

Table: Patient and hernia characteristics by approach.

	MIS N=339	Open N=432	P-value
Mean age (SD)	57.5 (14)	58.8 (14.4)	0.23
Female Sex (%)	177 (52.2)	248 (57.5)	0.15
Mean BMI (SD)	33.5 (6.7)	34.8 (8.4)	0.02
Current smoker (%)	62 (18.3)	84 (19.4)	0.68
Diabetes (%)	67 (19.8)	80 (18.5)	0.66
Umbilical hernia (%)	136 (41.2)	168 (39.8)	0.42
Urgent/Emergent Repair (%)	19 (5.6)	69 (16)	<0.001
Previous Hernia Repair (%)	78 (23.2)	127 (29.5)	0.05
Mean hernia width (SD)	4.71 (0.74)	4.84 (0.79)	0.02
Mesh used (%)	335 (98.8)	386 (89.4)	<0.001
Myofascial release (%)	13 (4.2)	59 (15.4)	<0.001

Conclusion

- Among patients with midsize hernia, surgical approach was very similar across groups
- Few patient-level factors were associated with surgical approach
- Surgical approach may be driven more by surgeon preference than patient or hernia characteristics
- Future work should assess the association between approach and long-term outcomes for patients with this common condition.

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