



Laparoscopic IPOM-Plus Using Synthetic Dual Mesh for Mid-Sized Ventral Hernias: Early Functional Recovery and Quality-of-Life Gains in a Prospective Cohort

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32 patients completed 6-month follow-up • 37.5% had BMI ≥ 30 kg/m² • Seroma: 6.3% (2/32) • No other significant early adverse events

Introduction

- Ventral hernias (2%-20% after abdominal surgery) impair core function and quality of life.
- IPOM-Plus combines laparoscopic intraperitoneal onlay mesh repair with primary fascial defect closure.
- This prospective cohort evaluated peri-operative safety, abdominal wall function, and hernia-specific QoL in mid-sized defects.

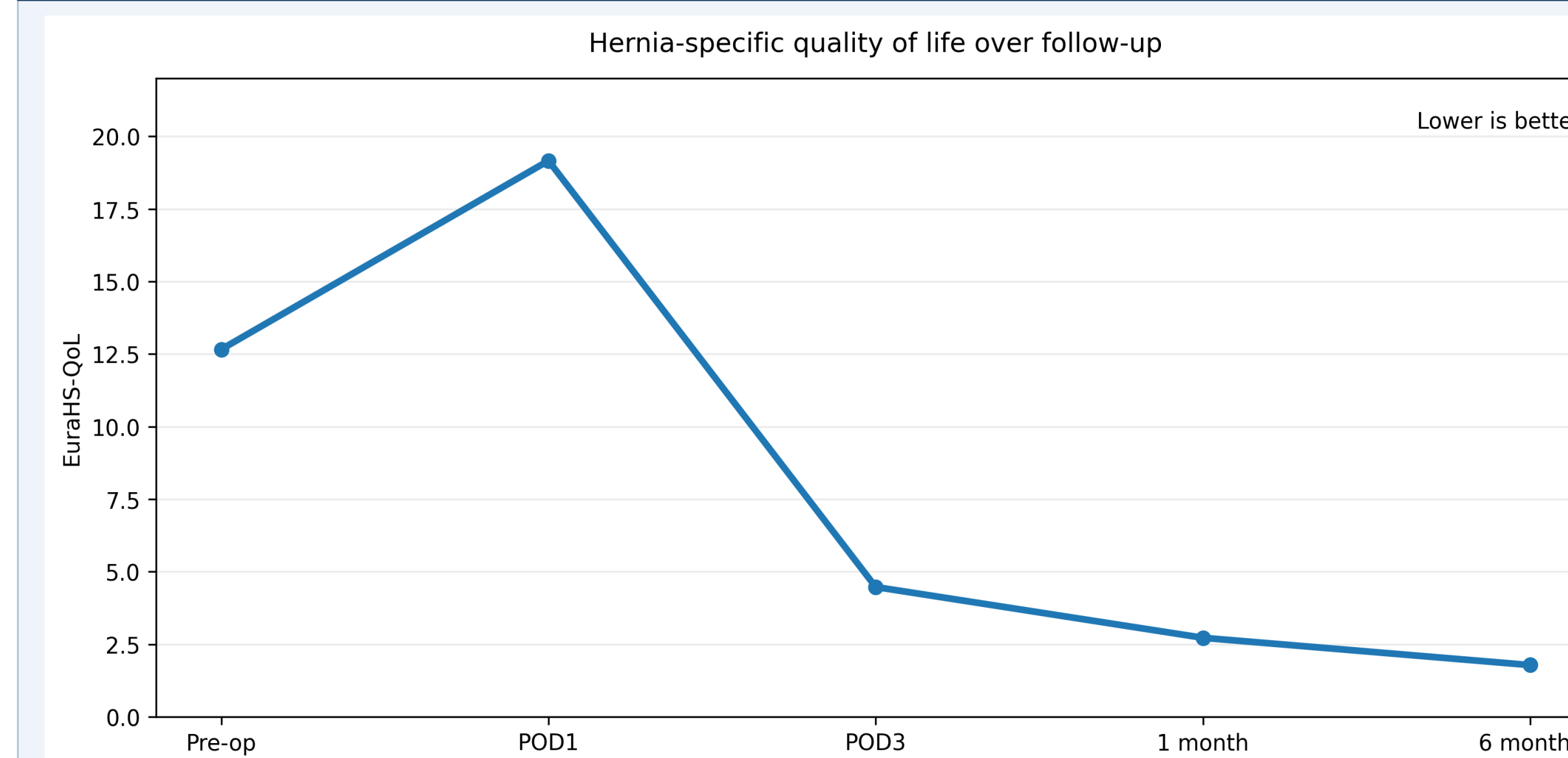
Results

- Thirty-two patients completed 6-month follow-up; **37.5% had BMI ≥ 30 kg/m²**.
- The **most frequent defect phenotypes** were M3, L3, and combined M4-M5 (15.6% each).
- EuraHS-QoL changed from **12.66 $\pm$ 8.58 pre-op to 1.78 $\pm$ 2.26 at 6 months** ($p < 0.001$ vs baseline).
- Abdominal wall strength improved from **6.75 $\pm$ 1.48 to 8.58 $\pm$ 1.31 at 6 months** ($p < 0.001$).
- CCS declined from **9.91 $\pm$ 4.44** on POD1 to **0.41 $\pm$ 1.50** by **1-6 months**.
- Only seroma was observed early after surgery: **2/32 cases (6.3%)**.

Materials and Methods

- Prospective single-centre cohort; adults with primary or incisional ventral hernia, defect size 2-8 cm, ASA I-II.
- Intervention: laparoscopic IPOM-Plus with primary fascial closure and synthetic dual mesh.
- Outcomes from pre-op to 6 months: EuraHS-QoL, abdominal wall strength, Carolinas Comfort Scale, and complications.

EuraHS-QoL Trajectory



Carolinas Comfort Scale (CCS)

Time	CCS Score			Wilcoxon test	
	Mean	SD	% change	z-value	p-value
Post op day 1	9.91	4.44	-	-	-
Post op day 3	0.41	1.50	-95.90	-4.89	<0.001
Post op day 7	0.00	0.00	-100.00	-4.65	<0.001
At 1 month	0.00	0.00	-100.00	-4.13	<0.001
At 6 month	0.00	0.00	-100.00	-4.81	<0.001

Complications and Clinical Meaning

- Seroma occurred in 2 of 32 patients (6.3%).
- No other significant early adverse events were recorded.
- Findings support IPOM-Plus as a safe option for mid-sized ventral hernias with early functional recovery.

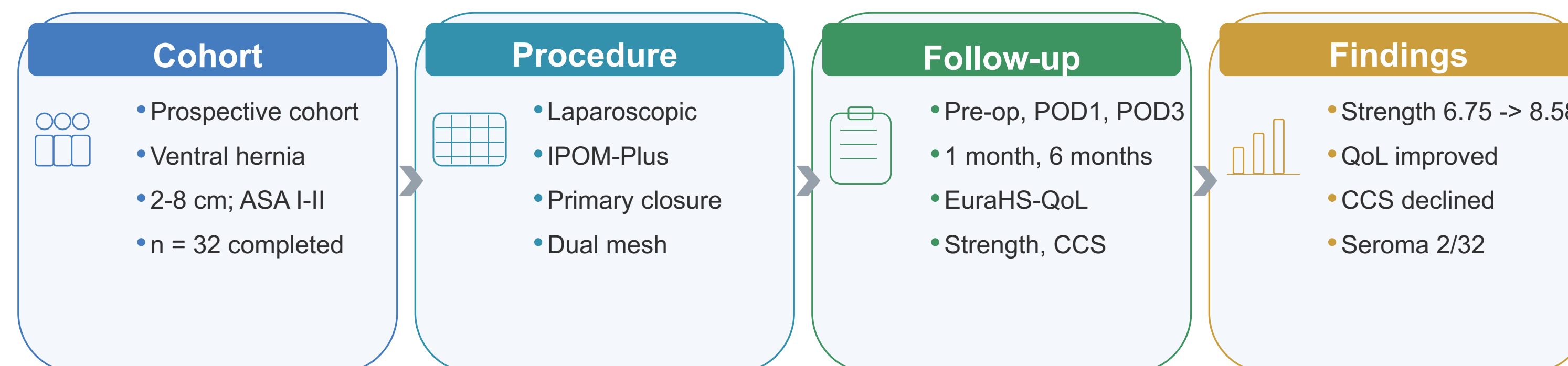
Conclusion

Laparoscopic IPOM-Plus with synthetic dual mesh for 2-8 cm ventral hernias was feasible and safe, with rapid symptom convalescence and durable improvement in abdominal wall function and hernia-specific QoL through 6 months, including in obese patients.

Strength score

6.75 $\rightarrow$ 8.58
+27% by 6 months
p < 0.001

QoL worsened transiently on POD1, then improved below baseline by POD3 and remained low through 6 months.



Strength +27%

QoL improved

Seroma 6.3%