

Barbed Suture vs Preperitoneal Ventral Patch in Medium Size Ventral Hernia Repair: A Randomized Control Trial

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Aim: To compare preperitoneal ventral mesh patch with barbed suture in ventral hernia repair, evaluating recurrence rates and complications, and to assess the safety and efficacy of standardised preperitoneal patch placement.

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Methods: In this randomized controlled trial, 205 adult patients undergoing ventral hernia repair were randomized 1:1 to either a ventral mesh patch repair group (n=103) or a 2.0 non-absorbable barbed suture repair group (n=102), blinded to patients and outcome assessors. Primary outcome was recurrence one year after surgery. Pain, nausea, and surgical site events were assessed on four occasions up to one year.

Results: 205 patients were randomized to ventral mesh patch repair (n=103) or barbed suture repair (n=102). Hernia recurrence at one year was lower in the ventral patch group (1.9% vs. 5.9%), though not statistically significant (p=0.14). Surgical site infection rate at one month was significantly less in the ventral patch group (0.9% vs. 6.9%; p=0.02). At one month, the ventral patch group had higher "Pain right now" scores on the VHPQ (p=0.02), this difference had disappeared by one year.

Outcome	Ventral Patch Group (n=103)	Stratafix Group (n=102)	p-value
Postoperative Outcomes			
Pain Score 4 Hours Postoperatively (mean)	2.2	1.2	0.001 †
Nausea 4 Hours Postoperatively (n, %)	5 (5.1%)	8 (7.9%)	Not significant
Nausea 1 Week Postoperatively (n, %)	8 (7.8%)	4 (3.9%)	0.2
Surgical Site Infection at 1 Week (n)	2	1	
Surgical Site Infection at 1 Month (n, %)	1 (0.9%)	7 (6.9%)	0.02 †
Seroma (n, %)	7 (6.9%)	2 (1.9%)	0.08
Hernia Recurrence at 1 Year (n, %)	2 (1.9%)	6 (5.9%)	0.14
Patient Satisfaction at 1 Year (% satisfied)	93.1%	92.1%	Not significant
VHPQ* "Pain Right Now" at 1 Month	High pain intensity	Low pain intensity	0.02 †
VHPQ at 1 Year	No significant difference		—

† Indicates statistical significance (p < 0.05). *Ventral Hernia Pain Questionnaire (VHPQ)

Conclusion: Preperitoneal ventral hernia patch repair is a safe and effective technique that results in a lower recurrence rate (though not statistically significant) than barbed suture. While postoperative pain scores at one month were higher in the patch group, this difference had disappeared by one year.