

Comparison between suturing and tacking in the modified-TEP technique for laparoscopic indirect inguinal hernia mesh repair

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Aims

We published the “modified TEP” technique in 2022 for the management of large indirect inguinal hernia sac using using non-absorbable barbed sutures during laparoscopic inguinal hernia mesh repair to reduce rates of seroma formation and recurrence. We propose an updated version of the technique using absorbable tackers to tack distal hernia sac onto the abdominal wall. This study aims to compare post-operative outcomes of this updated tacker technique compared to the original suture technique.

Methods

Patients who underwent laparoscopic inguinal hernia mesh repair in 2 surgical centres from March 2022 to May 2023 were included. Data was collected retrospectively from medical records: pre-operative examination findings, intra-operative findings, type of repair performed, risk factors for recurrence and post-operative outcomes.

Results

A total of 103 herniae were repaired using the modified-TEP technique during this period, of which 39 were performed using the original suture method, while the remaining 64 were performed using the updated tacker method. While there was no statistical difference in age (61.0 vs 61.6, $p=0.850$) and American Society of Anaesthesiology scores ($p = 0.350$), the suturing group had a slightly lower average BMI (21.2 vs 22.7, $p = 0.016$) and more patients with inguinoscrotal or irreducible hernia (43.5% vs 6.25%, $p<0.050$). There was no difference in length of hospital stay as most patients were discharged within one day of the surgery (97% vs 96%, $p = 1.000$), length of follow up was similar between the two groups (45 vs 49 days, $p = 0.550$). However, the suturing group had a higher incidence of seroma formation as compared to the tacking group (23% vs 1.56%, $p < 0.050$).

Conclusion

In this study, tacking was shown to be as effective as suturing. This reduces the technical difficulty and would allow more surgeons to perform the mTEP with greater ease. Tacking may potentially reduce seroma rate further than suturing the indirect defect, however, the higher rate of seroma in the suturing group in our study may be attributed to the larger proportion of patients with inguinoscrotal or irreducible hernia. Larger scale prospective studies and randomised controlled trials will have to be performed to validate our study.

Table 1 - Demographics							
	Suture N = 39	Tack N = 64	p-value				
Age(mean, SD)	61.0 (18.7)	61.6 (13.5)	0.850	Table 2 - Outcomes			
Male	39	59	0.153		Suture N = 39	Tack N = 64	p-value
Female	0	5		LOS days	38 1	62 2	1.000
BMI(mean, SD)	21.2 (3.2)	22.7 (2.9)		≤ 1 ≥ 2			
ASA 1	11	12	0.350	Follow up days (mean,SD)	45.0 (39.8)	49.0 (28.6)	0.555
ASA 2	24	40		Complication	9 0 0 0	1 0 0 0	
ASA 3	4	12					
DM	10	10	Seroma				
BPH	2	4	Recurrence				
Constipation	0	0	-	Chronic pain	0	0	≤0.001
Lung pathology	1	2	-				
Inguinoscrotal / irreducible	17	4	≤0.001				