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THEME Inguinal hernia

Reduced Postoperative Morbidity with TEP vs. TAPP: Results from a Randomized Trial in Laparoscopic Inguinal Hernia Repair

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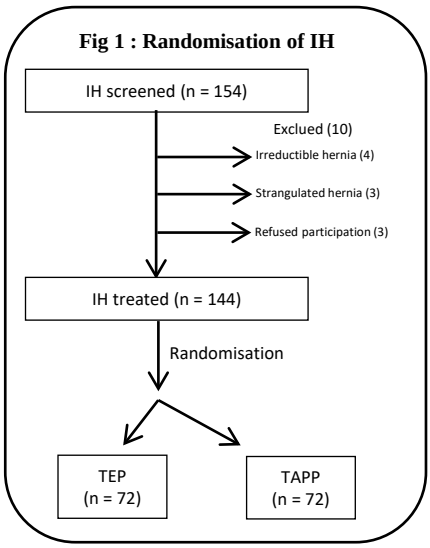
Introduction :

Inguinal Hernia (IH) is a common condition that requires surgical intervention. Laparoscopic techniques, including Totally ExtraPeritoneal (TEP) and TransAbdominal PrePeritoneal (TAPP) repair, have benefits such as quicker recovery and reduced postoperative pain. However, comparative studies between these approaches remain limited and yield conflicting results. This study aimed to compare postoperative morbidity between TAPP and TEP techniques.

Material & Methods :

This single-center randomized clinical trial was conducted between 2021 and 2024 at the General Surgery "A" Department at Tlemcen University Hospital, Algeria. A total of 144 patients were randomized (1:1) into two groups, 72 each and underwent either TEP or TAPP procedures (Fig1).

Fig 1 : Randomisation of IH



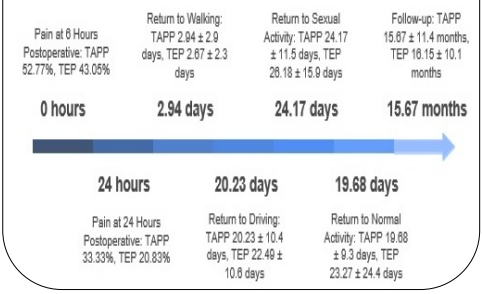
Results :

Postoperative morbidity was significantly lower in the TEP group compared to the TAPP group (6.94% vs. 19.72%, p = 0.024) (Fig 2). No significant differences were found in chronic pain incidence (1.4% vs 4.2%, p = 0.560), time to resume activities (Fig 3), or recurrence rates at one year.

Fig 2 : TEP vs TAPP Morbidity

Characteristic	TAPP Group (n=72)	TEP Group (n=72)	p-value
Morbidity	14 (19.72%)	05 (6.94%)	0.024
Postoperative Hematoma	02 (2.80%)	0	0.154 (NS)
Postoperative Seroma	09 (12.50%)	03 (4.16%)	0.070 (NS)
Scrotal/Inguinal Edema	03 (4.16%)	01 (1.38%)	0.310 (NS)
Urinary Infection	0	01 (1.38%)	0.316 (NS)

Fig 3 : Comparative Recovery Timeline : TEP vs TAPP



Discussion :

Our study confirms findings from recent randomized trials and meta-analyses (Cochrane 2024, Hernia Club Registry), showing no significant difference between TAPP and TEP in terms of recurrence, seroma formation, or major complications. TEP was associated with fewer early complications and a shorter operative time, but also with a steeper learning curve and a higher conversion rate—underlining the importance of surgeon experience and technical proficiency. In our series, recurrence rates were identical for both approaches (2.77%), aligning with international standards.

Conclusion :

The TEP technique demonstrates a clear advantage in reducing postoperative morbidity, making it a valuable option for minimizing complications. Given the lack of North African data, our study contributes to filling this regional gap. The choice between TAPP and TEP should be individualized, taking into account patient characteristics, surgeon expertise, and resource availability.

Key References : Awad SS, et al. The American Journal of Surgery. 2004. Simons MP, et al. Hernia. 2018. Hurel R, et al. Hernia. 2023. Aiolfi A, et al. Annals of surgery.2021. Andresen K, et al. Cochrane Database of Systematic Reviews. 2024.