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**Department:** General Surgery. **Specialization:** General Surgery **Approval date:** 

## ABSTRACT

Background: Inguinal hernioplasty is one of the most commonly performed surgical procedures worldwide, addressing the protrusion of abdominal contents through a weak spot in the inguinal region. A critical aspect of this procedure is the management of the cremasteric muscle, a thin skeletal muscle associated with the spermatic cord that plays a role in thermoregulation of the testes and protection of the spermatic structures.

Aim: We aim to compare the preservation of cremasteric muscle versus resection of cremasteric muscle in inguinal hernioplasty in postoperative pain, postoperative complications.

Methods: This is a randomized comparative study of 60 male participants divided into 2 groups: Group A, Preserved cremasteric muscle, and Group B, resected Cremasteric muscle in inguinal hernioplasty . They were subjected to detailed preoperative examination and diagnosed as unilateral reducible inguinal hernia. We obtained informed and Written consent for surgery from all included patients. Complete history, physical examination, and routine medical workup for cardiac were done. This study was performed in the Fayoum University Hospital after the local Institutional Ethics Committee and local Institutional Review Board approval.

Results: In our study, we included sixty patients with non-complicated inguinal hernia. Regarding postoperative pain score, the group undergoing preservation exhibited a significantly lower mean score (4.1) compared to the group without preservation (6.0). In terms of postoperative complications in the forms of scrotal edema, seroma, and wound infection, the frequency of occurrences did not show a significant difference between the preservation and no reservation groups, as evidenced by the p-value of 0.35. The group undergoing no preservation demonstrated a notably higher frequency of testicular ptosis 23 (76.7%) compared to the preservation group 5 (16.7), as well as a higher frequency of needing a drain (96.7% versus 46.7%). In the preservation group, comprising cases where the cremasteric muscle was retained, only 26.7% of patients experienced postoperative pain. Conversely, in the group where preservation was not performed, a significantly higher proportion, 53.3%, reported pain.

**Conclusion:** Inguinal hernioplasty with preservation of cremasteric muscle and preservation of inguinal canal anatomy showed better results compared to cremasteric muscle resection concerning postoperative pain and testicular ptosis with no affection for early recurrence.