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Enhanced TAPP in Patients with Incarcerated Inguinal Hernias

Background

- The study aimed to improve the efficacy of surgical treatment for incarcerated inguinal hernias using an enhanced TAPP technique with mesh fixation and peritoneal closure via an antiseptic adhesive composition

Method

- The procedure began with a diagnostic laparoscopy under general anesthesia. Following this initial evaluation of the abdominal cavity, two additional 5 mm trocars were inserted
- Subsequently, the hernial contents were reduced, and the viability of the incarcerated structures was assessed. If necessary, the hernial ring was incised to facilitate reduction. In cases involving intestinal incarceration, viability was evaluated under direct vision
- If the incarcerated organ was deemed viable, the hernia contents were reduced, preperitoneal space was created
- In the preperitoneal space, a 12 x 15 cm polypropylene mesh was positioned and secured to effectively cover the hernial defect
- The proposed method is distinguished by the fixation of the mesh using an adhesive polyurethane composition that includes an antiseptic solution with decamethoxin. The mesh is secured by applying a continuous layer of the adhesive over its entire surface. The integrity of the parietal peritoneum is restored by affixing it with the same adhesive composition

- From 2019 to 2024, 85 patients (aged 20–75, mean 42 ± 1.3) underwent surgery for incarcerated inguinal hernia
- Patients were divided into two groups based on the TAPP technique
- Group I (n=43) underwent enhanced TAPP with preperitoneal fixation of a polypropylene mesh and peritoneal closure using polyurethane glue and decamethoxin
- Group II (n=42) underwent traditional TAPP with tack mesh fixation and suturing for peritoneal closure
- Patients with phlegmon of the hernial sac or bowel loop necrosis were excluded.

Results

- Outcomes were assessed by early and long-term complications, including seromas, mesh infections, chronic postoperative pain, and hernia recurrences
- In Group I, the rates of seromas, chronic pain, and hernia recurrence were all 2.3% (1 patient each), with no mesh infections
- In Group II, complications included seromas 12 (28.5%), mesh infections 7 (16.7%), chronic pain 6 (14.2%), and recurrences 5 (11.9%)
- Adhesive closure of the peritoneum reduced the “dead space” above the mesh, significantly decreasing the incidence of postoperative complications

Conclusion

- Enhanced TAPP proved safer and more effective than the traditional technique for treating incarcerated inguinal hernias

