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Study between laparoscopic tapp repair and lichtenstein repair of inguinal hernia: A case report

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Abstract
Inguinal hernia is a commonly encountered problem by surgeon and various methods have been advocated for repair by various authors but each has got its own merit. Lich tenstein tension free mesh repair has been considered as standard procedure for inguinal hernia repair with low recurrence. With advancement of minimally invasive surgery laparoscopic hernia repair is gaining popularity. The aim of the study is to compare the results of Lichtenstein repair with laparoscopic TAPP (Trans abdominal pre peritoneal repair) in inguinal hernia. Laparoscopic TAPP repair is associated with faster recovery, less pain, better cosmesis and, least post-operative complications.

Keywords: inguinal hernia, laproscopic tapp repair, lichtenstein repair

Introduction
Inguinal hernia is commonly encountered pathological problem by the surgeon in the surgical practice. Hernia surgery has undergone tremendous refinement in technique. Various methods have been advocated by different authors but each has got its own merit. By demonstrating a comprehensive understanding of inguinal anatomy, Bassini (1844-1924) [1]. transform inguinal hernia repair in to a successful venture with minimal morbidity to patients. Should ice repair proposes suturing in multiple layer resulting in less Recurrence. Lichtenstein [2]. repair involved placement of a mesh over the floor of the inguinal cannel. It is a tension free repair in contrary to Bassini and Should ice suture repair. Laparoscopic inguinal hernia repair is a newer technique which results in less post-operative pain, better cosmetic result, improves recovery. Refinements in approach and technique have led to the development of intra peritoneal onlay mesh (Fitgibbons and Toy1990) [3], transabdominal pre peritoneal (TAPP) repair (Arregui 1991), and the totally extra peritoneal (TEP) repair (Duluq 1991). However there is no agreement about which operation is preferable in a given situation and reported cumulative recurrence rate varies widely. The aim of the study was to compare the post-operative pain, cost, duration of surgery, post-operative complication, recovery time, recurrence that occurs from both laparoscopic TAPP repair and Lichtenstein repair in patients of inguinal hernia.

2. Case Report
The present Case study comprises of 60 cases of inguinal hernia which were randomly selected and divided in to two groups at Marks medical College & Hospital, Dhaka, Bangladesh during January to Jun-2018. 30 cases underwent open Lichtenstein mesh repair and 30 cases underwent laparoscopic TAPP repair. Patients who presented with complication of inguinal hernia like obstruction, strangulation, irreducibility and children below 12 years were excluded from the study. Laparoscopic TAPP repair was done under general anesthesia and Lichtenstein repair was done under spinal anesthesia. After surgery all patients were monitored carefully for pain, bleeding, wound infection and seroma formation. Immediate post-operative pain was assessed by verbal rating scale (VRS).Patients were followed up to one year at regular interval postoperatively. In the study all 60 cases were male with minimum age of 13 years and maximum age was 80 years. 35(58.3%) out of sixty cases were right sided hernia and 25 (41.6%) cases were left sided hernia. In our study duration of surgery in Lichtenstein operation was 40 minute whereas in laparoscopic TAPP repair was 129 min. Post-operative pain was seen more in Lichtenstein repair (moderate pain) as compared to laparoscopic TAPP repair(mild pain).We observed haematoma in 1(3.3%) case, neuralgia in 2(6.6%) cases, wound infection in 2(6.6%) cases in Lichtenstein group. There was no wound infection, haematoma, neuralgia in patients undergoing Laparoscopic TAPP repair. Seroma is the most common complication in both groups 2(6.6%) cases in laparoscopic TAPP repair and 6 (20%) cases in Lichtenstein repair. Oral feeding started in both groups next day. Lap TAPP repair requires fixation device for fixing the mesh in pre peritoneal place and during reperitonealisation which is costly. In absence of tacker mesh has to be fixed by intra corporeal prolene suture but it is time consuming and also requires good suturing skill. No recurrence was seen in one year follow up period.

3. Discussion
Operative techniques for repair of inguinal hernia have evolved in past few decades continuously. Tension free Lichtenstein mesh repair is being established as gold standard method for inguinal hernia management. Lichtenstein repair, which can be done under regional anaesthesia is a safe and economic technique [4]. With

the advancement of minimally invasive surgery laparoscopic hernia repair is gaining popularity. The laparoscopic approach to inguinal hernia surgery is safe and simple and considered to be an appropriate approach for inguinal hernia surgery [5]. NICE have re-reviewed the recommendation for hernia repair(2007) and now confirm that laparoscopic repair of an inguinal hernia is an accepted alternative and is preferred method for repairing bilateral and recurrent hernia [6]. In the recent time laparoscopic and open technique have been compared in a number of situations in published literature [7]. Laparoscopic repair is associated with minimum postoperative pain, reduced wound infection and early return to work [8]. In our study we have observed 1 (3.3%) case of haematoma, 6(20%) cases of seroma, and 2 (6.6%) cases of wound infection in the open Lichtenstein hernia repair group. In the laparoscopic TAPP repair group there was no wound infection and haematoma. 2(6.6%) cases in laparoscopic repair developed seroma in the immediate post-operative period which was due to extensive dissection for large sac. It subsided after aspiration. Mesh repair is associated with lower recurrence rate with pain being the most common complication of hernia surgery. We have found 2(6.6%) case of neuralgia in Lichtenstein operation group but the pain subsided after few months with conservative management. In laparoscopic repair group no neuralgia was encountered in this study. Endoscopic tacker /stapling device is associated with an increase incidence of acute and chronic groin pain post operatively [9]. To avoid this no tacker should be applied below ileopubic tract during TAPP repair to prevent injury to the nerves. Laparoscopy seems to cause less persisting pain and numbness; return to normal day to activity is also faster [9, 10]. Established advantages of laparoscopic inguinal hernia repair over an open repair are more comfortable repair, quicker return to normal activity without a large groin incision. More recent studies have also suggested reduced chronic pain following laparoscopic inguinal hernia repair (1.9%versus3.5% in open group) [11]. The mean operating time in our study was 40 minutes for Lichtenstein group and 129 minutes in laparoscopic TAPP repair group indicating more time needed for lap hernia repair. As compared to open Lichtenstein repair lap hernia repair was found to be more costly as it requires a fixation device and larger size mesh. Cost factor remains a burning issue in pulling down laparoscopic hernia repair as they involve high cost as compared to open repair [12]. Laparoscopic repair is exorbitant to health care service as compared to open hernia repair [7]. No recurrence was recorded in our study in one year follow up period in both groups. Laparoscopic technique had a lower recurrence rate than open technique in long term follow up [13]. Mc Cormack *et al* comparing laparoscopic and open repair had revealed no apparent difference in recurrence [7]. a large number of hernia repair are still done with open technique as laparoscopic repair has a steep learning curve and requires costlier infrastructure [14].

4. Conclusion

Laparoscopic TAPP repair is associated with faster recovery, less pain, less post-operative complication better cosmetic result as compared to open Lichtenstein repair.

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