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OUTCOMES AND COMPLICATIONS OF MESH HERNIOPLASTY TERTIARY CARE HOSPITAL

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Abstract:

Objective: *To document the early results of open mesh repair in the treatment of inguinal hernia.*

Study design: *An observational study.*

Place and duration: *In the Surgical department of Benazir Bhutto Hospital Rawalpindi for six months duration from October 2019 to March 2020.*

Materials and methods: *420 patients were selected with Non-probability purposive sampling having inguino-scrotal hernia, in whom open mesh repair, were analyzed for early postoperative results, such as postoperative infection, hematoma, and serous sinus discharge. The data was collected by completing a special proforma for each patient. Follow-up visits are scheduled for a week, six weeks, twelve weeks and twenty four weeks after surgery.*

Results: *Polypropylene mesh repair was performed in 420 patients, all of whom were adult men. The age is between 18 and 72 years, on average 46 years. 278 were with the right side hernia (66.19%) and 142 on the left (33.80%). Four (0.95%) had recurrent hernia, two (0.476%) bilateral. After surgery, 392 (93.33%) showed trouble-free recovery, 2 (0.476%) had a large wound infection that had to be removed, and 10 (2.38%) had a small wound infection. Seroma developed in 10 (2.38%) and 06 (1.42%) had scrotal hematoma. No sinus discharge was observed.*

Conclusion: *Repair of open pores of inguinal hernia is a safe and effective technique associated with low morbidity. It is associated with minimal postoperative infectious complications, which was feared in the past due to the presence of foreign bodies (networks).*

Key words: *inguinal hernia, Liechtenstein, mesh repair.*

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INTRODUCTION:

Inguinal hernia is the most common type of hernia, containing about 75% of all anterior abdominal hernias[1-2]. Hernia surgery is traditionally considered one of the clean surgeries, along with thyroid and breast surgery[3-4]. However, mesh repair is associated with complications such as foreign body response, infection, pain, fistula formation, migration, spasm and recurrence. Surgical site infection (SSI) is the most common complication in inguinal hernia[5-6]. SSI is associated with an increase in the length of stay and costs, and a reduction in the quality of life[7]. Reticulated hernioplasty has long been practiced in private facilities, and sometimes tissue repair is preferred in public hospitals for fear of infectious complications[8]. Little research has been conducted locally to determine the infection rate in mesh hernioplasty, the purpose of this study is to identify early inguinal mesh hernioplasty results.

MATERIAL & METHODS:

This observational study was held in the Surgical department of Benazir Bhutto Hospital Rawalpindi for six months duration from October 2019 to March 2020. A total of four hundred and twenty adult patients with inguinal and inguino-scrotal hernia were included and all patients 18 years of age and older were included in the study. Mesh hernioplasty (polypropylene) was performed in all cases by a senior Registrar / assistant professor in spinal anesthesia. Emergency cases (Obstruction & strangulated), femoral hernia and women with inguinal hernia were excluded from the study. According to the standard preoperative study protocol, all patients received three doses of perioperative antibiotics (Co-amoxiclav 1.2 gm). All patients were treated with a polypropylene mesh, and a 2/0 cut polypropylene stitch was used to hold the mesh. 75 mg diclofenac sodium I / M was used for 24 hours after surgery followed by an oral analgesic. Early postoperative complications (surgical site infection, seroma, scrotal hematoma, sinus discharge) were found during follow-up. Superficial infection is defined as minimal swelling and erythema of the wound that does not require surgical intervention. Deep infection is defined as leakage from a wound that requires drainage / surgical intervention or the accumulation of purulent fluid. An infected network is considered a treatment failure. Seroma is defined as the accumulation of a sterile serous fluid that requires aspiration in the groin.

RESULTS:

Polypropylene mesh repair was performed in 420 patients, all of whom were adult men. The age is between 18 and 72 years, on average 46 years. 278 were with the right side hernia (66.19%) and 142 on the left (33.80%). Four (0.95%) had recurrent hernia, two (0.476%) bilateral. After surgery, 392 (93.33%) patients had a smooth recovery, 2 (0.476%) patients had a serious wound infection, and 10 patients (2.38%) had minimum wound infections and were treated with long-term antibiotic therapy (5-7 days) after culture and sensitivity.

Table 1: Post-operative outcome (n=420)

Events	n=	%age
Uneventful recovery	392	93.33
Surgical site infection	12	2.85
Superficial	10	2.38
Deep	2	0.47
Seroma	10	2.38
Scrotal Hematoma	6	1.42

Ten patients (2.38%) had seroma and 6 patients (1.42%) had scrotal hematoma. No sinus discharge was observed. Most patients were discharged 24-48 hours after surgery. Checks were carried out one week, six weeks and twelve weeks later.

DISCUSSION:

Inguinal hernia was first described in 1550 BC. The first surgical procedures were recorded in 250-330 BC, and today inguinal hernia is the most common surgical procedure performed by general surgeons. In the age of advanced technology, the repair of inguinal hernia caused a revolutionary change from the tissue repair technique of the 70s and 80s to laparoscopic repair, laparoscopic repair and primary repair of all inguinal hernia using a kind of mesh[9-10]. In this study, 93.33% of patients recovered without any problems, 2.38% of patients developed superficial infection, 0.476% of patients had an infected mesh, 2.38% of them had seroma, and 1.42% had scrotal hematoma. SSI and seroma were the most common complications in this study. Sanna T.H. Kouhia reported that in a series of 99 recurrent inguinal hernia operations at the North Karelia

Hospital in Finland, superficial infection was 4% and deep infection was 0%[11-12]. Anwar reported a 5% wound infection and Saleem showed a 5% wound infection. Our study was comparable to Shulman and Liechtenstein, who reported a wound infection rate of less than 2%, while the Sheikh study showed that 0.4% of cases had a mesh infection[13-14]. In a study by George H Sakorafas at the Air Force Hospital in Athens in Greece, it was found that 540 patients did not develop any foreign body infection, i.e. the Mesh. An infection rate of 0% was recorded in 30 cases at Mayo Lahore hospital, and seroma developed in 2.38% of our patients in this study. In a study by Waqar T, serous formation was reported in 5% of cases. Our study can be compared with Tarik khanzada and Sheikh, who reported seroma formation in 3.2% and 3.9%, respectively. In this study, 1.3% of the scrotal hematoma developed comparable to 1.42% Kurzer20. In a study by Abid KJ, scrotal hematoma was reported in 3.3% of cases, while Kouhia reported 6% in repetitive repair. Tariq Khanzada et al. Scrotal hematoma was reported as 8.6% in 93 case studies.

CONCLUSION:

This study is encouraging in the sense that the incidence of early complication of open mesh repair of groin hernias is well within the accepted range, especially the infective complication in a general ward of a hospital.

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