

A Practical Experience with the Stoppa Repair in our Set Up

MOHAMMAD NADEEM ASLAM, SIDRA SHOAB

ABSTRACT

Inguinal hernia is a very common problem and has been treated surgically since long. The Stoppa repair is a tension free type of hernia repair, performed by wrapping the lower part of the parietal peritoneum with prosthetic mesh and placing it at a preperitoneal level over Fruchauds myopectineal orifice. We evaluated Stoppa pro peritoneal mesh repair as a method of repair for bilateral and unilateral, direct and indirect, primary and recurrent inguinal hernia. 60 patients, with inguinal hernia were treated with stoppa's technique during January 2005 – Dec 2008 presenting to outpatient department of surgical department of Mayo hospital. Out of 60 patients 35 had primary bilateral hernia, 13 had recurrent unilateral hernia whereas 1 had recurrent bilateral and 2 had unilateral recurrent and contra lateral primary inguinal hernia whereas rest of 9 had primary unilateral hernia 5 direct and 5 indirect. Patients were followed up for 1 year to notice any complications including recurrence. Drain was placed in all patients. Complications occurred in 21% patients which were minor. There was no recurrence. So it was concluded that stoppas technique may be a useful technique to treat inguinal hernia

Keywords: Inguinal Hernia, Stoppa technique, recurrent

INTRODUCTION

Surgical repair of inguinal hernias is a common procedure in adult men. However, recurrence of hernias has been reported to occur after repair in 15 percent or more cases, and postoperative pain and disability are frequent^{1,2,3,4,5}. When traditional surgical methods are used, outcomes after repair of recurrent hernias have been worse than after primary repair.^{6,7} The strengthening of the posterior wall of the inguinal canal represents one of the major objectives in inguinal hernia repair. There are 2 primary methods used to achieve this objective: "tissue-repair technique" and "tension-free repair". Recently, tension-free repair has become the gold standard procedure for repairing inguinal hernias. Many techniques have been described by different authors⁹⁻¹⁴. Tension-free repair involves the use of synthetic prosthetic materials for rebuilding or strengthening the posterior inguinal wall. The prosthetic materials, now disposable, have a well-tolerated bio reactivity, allow efficient fibroplasia, diminish postoperative pain, and significantly reduce the recurrence rate and convalescence period¹⁵.

The Stoppa procedure, or giant prosthetic reinforcement of the visceral sac (GPRVS), is performed by wrapping the lower part of the parietal peritoneum with prosthetic mesh and placing it at a preperitoneal level over Fruchauds myopectineal orifice. The mesh contributes to a physiological healing process that creates a special anatomical

strengthening in the inguinal region, which effectively prevents inguinal hernia recurrence¹⁵⁻¹⁷. The procedure's justification is based on surgical and anatomical prosthetic placement that occludes the myopectineal ostium of Fruchaud. The GPRVS procedure requires wide dissection of the sub fascial pre peritoneal space. As a corollary, the GPRVS operation calls for the use of suction drainage¹⁶. In this study we evaluated our experience regarding the stoppa technique for indications, post operative events and complications during 1 year follow up.

MATERIALS AND METHODS

Study was conducted in surgical department of Mayo hospital Lahore from Jan 2005 to December 2008. All patients having bilateral hernias, recurrent hernias and complex unilateral hernias were included. Patients having simple small unilateral hernias were excluded

RESULTS

Sixty patients were included in the study. All were males. Age was between 21 – 79 years with a mean age of 50 years. Out of 60 patients types of hernia are shown in Table 1. All patients underwent Stoppas repair with drainage procedure. 48 (80%) had the procedure done under general anaesthesia while 12 (20%) had spinal anaesthesia. Incision used was Pfannenstiel in 49 (81.6%) patients whereas 11 (18.3%) had lower midline incision especially in patients with bilateral hernias. Drain was removed in 51 (85%) patients within 24 hours whereas in 9

Department of Surgery, King Edward Medical University/ Mayo Hospital, Lahore
Correspondence to Dr. Mohammad Nadeem Aslam Associate Professor Surgery, Email: nadeemaslam@hotmail.com

patients drain was retained for more than 24 hours. Complications occurred in 14% patients but all were minor. Recurrence occurred in none. Complications that occurred were urinary retention in 3 patients (5%), pain in 3 patients (5%), and seroma occurred in 2 patients and hematoma in one whereas superficial wound infection occurred in 4 patients (6.6%) that resolved with 5 days antibiotic course. No patient developed an abscess. Average hospital stay was 2.3 days

Table 1: Types of Hernias (n=60)

Type of Hernia	=n	%age
Primary bilateral hernia	35	58.3
Recurrent unilateral hernia	13	21.6
Recurrent bilateral	1	1.66
Unilateral recurrent and contra lateral primary inguinal hernia	2	3.33
Unilateral hernia direct	5	8.33
Unilateral hernia indirect	4	6.66

Figure 1: Complications of Stoppa Repair



DISCUSSION

Inguinal hernias represent 75% of all hernias. It has a disabling affliction with a lifetime prevalence of 25% in men and 2% in women¹⁸. Incidence of incarceration is 10%. First time recurrent hernia fail in 1 to 30% of cases, second time recurrent repairs do so at the rate of 3% to 35% and third time or more repairs fail in > 50% cases^{19, 20}.

Efficacy is both an ethical and economic obligation in the treatment of hernias and efficacy is not easily achieved without mesh in patients with weak inguinal tissues. The Stoppa (GPRVS) procedure utilizes the many advantages of the pre peritoneal approach in inguinal hernia repair. It has many advantages, particularly in cases of recurrent or bilateral inguinal hernias. A key feature of GPRVS is the application of Pascal's principle in mesh placement that reinforces the lower abdominal wall with a well-designed anatomical approach that does not disturb groin structures, even in cases that were dissected before. However, the GPRVS procedure requires a very extensive dissection of the pre peritoneal space for the insertion and wrapping of the visceral sac in large bilateral mesh prosthesis²².

Nyhus²³ points out that modern hernia surgery should individualize the repair to each clinical situation, and some would add, to each social and economic circumstance. In this study, the GPRVS was mostly used in a group of older patients, with multiple medical problems as well as recurrent or complex bilateral hernias. Miller²⁴ and colleagues demonstrated that the simultaneous repair of bilateral inguinal hernias is safe and does not result in an increased recurrence rate.

We studied 60 male patients. In various studies for inguinal hernias all included were males²¹. Mean age in our study was 50 years whereas in a study by Ahmed M et al it was 54 years²¹ and in a study by²⁵ it was 57.2 year as complex hernias usually occur in older individuals.

Out of 60 patients we included in the study 35 (58.3%) had primary bilateral hernia, 13 (21.6) had recurrent unilateral hernia whereas 1 had recurrent bilateral and 2 had unilateral recurrent and contra lateral primary inguinal hernia whereas rest of 9 (15%) had primary unilateral hernia 5 direct and 4 indirect. In study by Ahmed M²¹ patients included were eight patients (27%) with primary bilateral inguinal hernia. Sixteen (53%) had a unilateral recurrent hernia with contra lateral primary hernia. Six (20%) had a bilateral inguinal hernial repair with unilateral recurrence whereas in study by²⁵ the only included group was bilateral hernias. But in our study we also included some unilateral direct and indirect hernial repair by stoppa's technique specially those which were large and complex and were at risk of recurrence. Primary hernias were considered as complex if they were associated with factors predicating a high risk for recurrence such as multiplicity, large size or were associated with co morbid aggravating factors (e.g., COPD). In another study by Maghsoudi H included 186 bilateral and 48 unilateral hernias²².

In our study 48 (80%) had the procedure done under general anaesthesia while 12 (20%) had spinal anaesthesia. In a study by Fernández-Lobato et al regional anaesthesia was given in 25% of patients in 1995 and 80% in 2003²⁵. Drain was inserted in 100% of patients. 85% of patients had drain out after 24 hours whereas only 15% had drains that had to be kept longer. Only 1 patient had drain out on 3rd day rest had it removed on 2nd day.

As far as adverse effects were concerned we had almost comparable values with other studies. Urinary retention occurred in 3 patients (5%), pain in 3 patients (5%) and seroma occurred in 2 patients and hematoma in one whereas superficial wound infection occurred in 4 patients (6.6%) that resolved with 5 days antibiotic course and no mesh had to be removed. No patient developed an abscess. So a

total of 13% patients developed early post op complications. Stoppa has reported an infection rate of 12% and none of prosthesis required removal^{25, 26} In our study no recurrences occurred even after 1 year of follow up. This is comparable to series by Maghsoudi H²² having the 0.85% (2 of 234) recurrence rate was reported. This recurrence rate is lower than other studies using the GPRVS

Technique^{27,28,29,30} and compares well with recurrence rates reported with other techniques. In the experience of Stoppa et al,²⁵ and others with Stoppas technique, all recurrences occurred within 6 months and were ascribed to technical failures. In Stoppas technique the replacement of the endo abdominal fascia seals the inguinal, femoral, and obturator canals as well as all other potential sites of weakness in the lower abdomen. For this reason, late recurrences are not reported.

In theory, recurrences after Stoppas technique are not possible.²² but they occur in a minority of cases most probably due to technical errors. No other hernioplasty produces better results for recurrent and especially re-recurrent groin hernias. For excellent results, the mesh must be polyester that is correctly sized, shaped and placed. Stoppas technique for inguinal hernias is a safe and effective way to treat selected patients with recurrent unilateral or complex bilateral inguinal hernias.

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