

Study of Role of Stoppas Technique for Repair of Inguinal Hernias

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Abstract

Context: Inguinal hernias are commonly performed operations. Stoppa's repair is one which uses large prosthetic mesh in preperitoneal plane covering myopectineal orifice. Present study is done to know the role of Stoppa's repair in bilateral, recurrent and unilateral hernias which are at the risk of recurrence. *Aim:* To study the role of Gaint Prosthetic reinforcement of visceral sac in treatment of groin hernias. *Settings and Design:* Prospective, Observational study done in government Hospital. *Methods and Material:* 30 cases of Bilateral, recurrent, unilateral inguinal and femoral hernias were selected. Demographic data, smoking, COPD, BPH were noted. Post op hospital stay and complications were recorded. *Statistical analysis used:* Descriptive statistical analysis has been carried out in the present study. *Results:* Out of 30 patients 12 had bilateral, 17 unilateral of which 5 were recurrent, 1 was femoral hernia. All were males between 41 to 60 years. 43 % of patients had associated pain with swelling in groin. Direct hernia was common. Risk factor for recurrence was smoking, COPD, BPH, Poor abdominal tone. Duration of surgery was 60 min. Post op was uneventful. Recurrences were not seen during follow up of 3 years. *Conclusions:* Stoppa's repair is effective and safe procedure hernias which are at high risk of recurrence. Procedure is simple, complications are low with lower recurrence rate.

Keywords: Stoppa's repair; Inguinal Hernia; Femoral Hernia

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Introduction

Inguinal hernias are among the most common problems encountered by the Surgeon [1]. Total 15% of surgical procedures done are groin hernia repairs. Success of hernia surgery depends on its ability to prevent recurrence and to minimize complications. Present hernia repair techniques involve anterior approach like Lichenstein repair [2], Gilbert [3] and mesh plug of rutkow [4].

These techniques are with complications like nerve entrapment, testicular atrophy, orchids and chronic groin pain. Lap repair has long learning curve, dissection is technically demanding in cases of large hernias, recurrent hernias many times not possible because of scarring [5].

Gaint prosthetic reinforcement of visceral sac [6] (GPRVS) is another name for Stoppa's repair could be solution for this. In this method no attempt is made for repair of hernia defect. Fascia transversalis is replaced with mesh which functionally reinforces the transversalis fascia. Large mesh is used for covering all groin hernial orifices. This method is simple, short learning curve, tension free, acceptable recurrence and short duration of surgery. This method is easier even in cases of large, bilateral or in multi recurrent hernias.

Materials and Methods

Inclusion Criteria

Bilateral primary or recurrent, Recurrent, Unilateral inguinal hernias with the risk factors for recurrence like poor abdominal tone, obesity, smoking, COPD.

Exclusion Criteria

Complicated hernias. All the cases were evaluated and taken for surgery as described by Stoppa s through single sub umbilical midline incision. Mesh is placed in preperitoneal plane; Drain is placed in most of the cases removed after 72 hrs. Patient was allowed ambulation on first post operative day. Intra operative findings, duration of surgery and post op complications, Duration of hospital stay were recorded. Patients were followed regular 3 monthly intervals for 3 years.

Results

Age of patients varied from 21 to 80. Maximum incidence was found in the age group of 41-50 years and 51-60 years. All patients studied in the study were male patients. All the patients had groin swelling at presentation and 43% of cases had associated pain with swelling. Presentation with pain is more commonly associated with indirect hernias seen in 8 cases (61%) and 5 (39%) cases of direct hernias (Table 1).

In the present study 1 case 3% of femoral hernia was included in the study which was recurrent from previous anterior repair. 5 (17%) cases of recurrent hernias were included in the study. All were unilateral hernias. 4 (13%) were direct and 1(4%) indirect hernia. 12 (40%) cases were bilateral hernias in which 7 (23%)

are direct hernias and 5 (17%) were indirect hernias. 16 (53%) cases are direct and 13 (44%) cases are indirect hernias. In the present study 17 (57%) cases of hernia patients were doing heavy work and 13 (43%) cases are doing light work (Table 2).

All the patients were operated under spinal anesthesia. Average time of surgery was around 60 min. In the present study, there was no major intra operative complication. In 4 (13%) cases peritoneal tear occurred which was closed primarily with absorbable sutures. In the present study none of the patients had major surgical complication except one case had post operative bleeding managed conservatively with blood transfusion and follow up with ultra sound which showed no hematoma or collection. Urine retention was noted in 2 (7%) cases and superficial wound infection in 2 (7%) cases which were treated with antibiotics and drainage after culture and sensitivity of discharge. Duration of post operative stay varies from 4-9 days with a mean of 6.5 days (Table 3).

Discussion

Inguinal hernia has maximum incidence in between 30-60 years. Studies done by Rosa fernandiz, Mathinnet M and Henmat maghsoudi showed that mean age of presentation was 52.7years, 60 years and 60 years respectively. In our study mean age of presentation was 50 years which is comparable to other studies. In our study all the patients studied were males. Studies

Table 1: Age at presentation

Age in years	Number	Percentage
21-30	2	6
31-40	3	10
41-50	9	30
51-60	9	30
61-70	6	20
71-80	1	4
Total	30	100

Table 2: Location of hernias

Side	Direct	%	Indirect	%	Total	%
Bilateral	7	23	5	17	12	40
Right	3	10	5	17	8	27
Left	6	20	3	10	9	30
Total	16	53	13	44	29	97

Table 3: Risk factors associated with hernia

Risk factors	Number	Percentage
Strenous work	17	57
Smoking	15	50
Poor abdominal tone	8	27
COPD	10	33
Recurrent	5	17
BPH	6	20

done by Rosa fernandiz [7], Mathinnet M [8] and Henmat maghsoudi [9] had 96%, 97% and 100% men in their study. Most common presentation is swelling and swelling with pain. In our study 57% presented with swelling and 43% presented with pain and swelling.

Studies done by Rosa Fernandez [7], Mathinnet M [8] and Henmat maghsoudi [9] on Stoppa s repair had direct hernias bilateral and recurrent hernias in the study. Direct hernias are more common in more than 40 yrs of age. Our study had 53% of direct hernias, 44% of indirect hernias and 40% of bilateral hernia and 17% recurrent hernias. 57% of the patients were heavy workers and heavy work predisposes to the raised intra abdominal pressure and pre disposes to direct hernias.

Most of patients had risk factors for development of hernia most common being strenuous work in 57%, smoking in 50%, COPD in 33% and BPH in 20% and poor abdominal tone in 27%. Unilateral hernias included in the study had one or more risk factor for development of recurrence and contra lateral hernia.

Operating time is much shorter than laparoscopic repair and bilateral Lichtenstein repair done bilaterally. Operating time is not greatly increased even in cases of

bilateral hernias and recurrent hernias.

No major complications were found in present study except for 4 peritoneal tears which occurred while operating for recurrent hernias and femoral hernia which was closed with Vicryl 2-0 primarily. No cases of major bleeding or bladder injury occurred. No conversion to other methods of repair was done.

Conclusion

Hernia is common in age group of 40 to 60 years. Direct hernias are more common in age group more than 40 years of age. Males are commonly affected than females. GPRVS allows bilateral approach for via single incision covering all the hernia orifices including inguinal, femoral and obturator hernias. GPRVS avoids reoperation through defective, scarred and weakened tissues especially in recurrent hernias. Complications are minimal as plane of dissection avoids major vascular structures no dissection of cord structures or dissection of defect. Can be done under regional anesthesia. Duration of surgery is short even in complex recurrent hernias. Recurrence after mesh

Table 4: Operation time

Study	Operation Time in Min
Present	60
Roza ⁷	66
Henmat ⁹	51
Mathonnet ⁸	45
Stoppa ¹⁰	65

Table 5: Post operative complications

Complications	Present	Rosa ⁷	Henmat ⁹	Mathonnet ⁸	Stoppa ¹⁰
Mortality	0	0	0	0.2	0.9
Hematoma	0	8.5	0	2	3.2
Seroma	1	1.4	1.2	0	0
Wound infection	2	0	0	1.6	2.1
Mesh infection	0	0	0	0	0
Scrotal oedema	0	0	0	0	0
Ischemic orchitis	0	0	0	0	0
Testicular atrophy	0	0	0	0	0
Groin pain	0	0.9	0	0	0
Parasthesia	0	0	0	0	0
Urine retension	2	0.45	0	1.5	0.25
Phlebitis	0	0	0	0.2	0.25
Cardiac complaints	0	0.4	0.4	2.8	1.75
Recurrence	0	1.7	0.85	1.6	1.4
Intestinal complications	0	0.9	0.9	0.1	0

Table 6: Post operative stay

Study	Post Op Stay in Days
Present	6.5
Roza ⁷	5.1
Henmat ⁹	2.2
Mathonnet ⁸	6.1
Stoppa ¹⁰	10.3

repair is low, is related to technical factors. Complications like testicular atrophy and chronic groin pain are less common. GPRVS provides safe and definitive cure for complex and recurrent groin hernias because of its simplicity, ease of procedure, excellent results and low complication rate.

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Conflict of Interest

Nil

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