

# Stoppas Revisited: A Case Report of a Recurrent Bilateral Inguinal Hernia

Radha Verma<sup>1</sup>,  
Prashin C Unadkat<sup>2</sup>,  
Kiran Gaikwad<sup>3</sup>,  
Priyesh Naik<sup>4</sup>,  
Zaffar Sayed<sup>5</sup>,  
Chirag Vaja<sup>6</sup>

<sup>1</sup>Professor & Head of Unit, Department of Surgery, K.J. Somaiya Medical College and Research Centre, Mumbai, Maharashtra, India, <sup>2</sup>Intern, Department of Surgery, K.J. Somaiya Medical College and Research Centre, Mumbai, Maharashtra, India, <sup>3</sup>Assistant Professor, Department of Surgery, K.J. Somaiya Medical College and Research Centre, Mumbai, Maharashtra, India, <sup>4</sup>Consulting Surgeon, Department of Surgery, K.J. Somaiya Medical College and Research Centre, Mumbai, Maharashtra, India, <sup>5</sup>Postgraduate Student, Department of Surgery, K.J. Somaiya Medical College and Research Centre, Mumbai, Maharashtra, India, <sup>6</sup>Postgraduate Student, Department of Surgery, K.J. Somaiya Medical College and Research Centre, Mumbai, Maharashtra, India

**Corresponding Author:** Dr. Radha Verma, 70/Asinduwadifairlife Society, MG Road Ghatkopar East, Mumbai - 400 077, Maharashtra, India. E-mail: drradha.verma@gmail.com

## Abstract

Amongst the vast majority of hernias present, inguinal hernias form the major bulk of cases. They can be benign if left untreated but always have a potential risk of complications like obstruction and strangulation. Many types of hernia repair surgeries have been described in the past, and all of them are generally safe and effective. Complications include infection, seroma, hematoma, chronic pain, and recurrence. Subsequent surgical treatments after a recurrence have a much higher failure rate. This article discusses a 61-year-old male patient who presented with recurrent bilateral inguinal hernia and was operated on using Stoppas groin hernia repair.

**Keywords:** Bilateral, Hernia, Recurrent, Stoppa

## INTRODUCTION

“A hernia is defined as a protrusion of a viscus or part of a viscus through an abnormal opening in the walls of its containing cavity.”<sup>1</sup> Bilateral inguinal hernias occur in 6-8% of groin hernias.<sup>2</sup> The recurrence rates of inguinal hernias are anywhere between 0.2% and 10%.<sup>3</sup> Inguinal hernias are problematic in that the risk of recurrence increases with every subsequent surgery for a hernia. A study indicated 3<sup>rd</sup> time recurrences have failure rates as high as 50%.<sup>4</sup> They also bring along with it the usual problems of any surgery such as infection, pain, cost and quality of life.

Multiple surgeries have been described for hernia repair. There are two methods to achieve this, tissue or tension repair technique and tension-free repair technique. Tension-free repair today is most popularly used for hernia repairs which involves the use of prosthetics for reinforcing and rebuilding the posterior inguinal wall. This procedure has replaced tension repair in which adjacent muscles are cut and sutured so as to cover the inguinal defect through which the hernia is protruding. For recurrent bilateral inguinal hernias the popular methods are Lichtenstein’s repair,

Stoppas repair, Wantz and Nyhus. Laparoscopic repair for inguinal hernias are being increasingly used. Two techniques used are transabdominal preperitoneal hernioplasty, which uses the same principles as Stoppas repair, but carried out laparoscopically and total extraperitoneal repair. Although there is no clear superior approach, laparoscopic hernia repair has been shown to have a mildly increased risk of recurrence compared to open hernia repair.<sup>5</sup> With that in mind and factoring the increased cost of the surgery it was decided to proceed with an open hernia repair.

## CASE REPORT

The patient was a 61-year-old-male, a driver by profession who presented with bilateral inguinal swellings, with the left side greater in dimensions than the right. He also complained of mild pain on the left inguinal swelling.

He had no history of fever, nausea, vomiting or constipation. He denied any changes in his bowel or bladder habits. The patient reported a past history of inguinal hernias. He was operated for bilateral inguinal hernia at the age of 17 years

and had a recurrence of the left inguinal hernia when he was 54 years of age for which he was operated with meshplasty. He reported both surgeries went off well and showed no evidence of post-operative infection at incision sites. He also had a history of hemorrhoidectomy. The patient had no history of diabetes mellitus, hypertension, pulmonary complications or difficulty urinating.

On examination, the patient was in no acute distress. On local examination, the swellings were non tender and showed no warmth or erythema bilaterally. The swellings were reducible, positive for cough impulse, negative for transillumination test. On per rectal examination, Grade 1 prostatic hypertrophy was present. A provisional diagnosis of recurrent direct bilateral inguinal hernia was made.

The patient was sent for an ultrasonography which confirmed a bilateral inguinal hernia with contents of the sac identified to be bowel. On routine blood investigation, the patient was diagnosed with high blood sugar and was posted for surgery after it was brought under control.

### Surgical Technique

Stoppa's approach was first published in 1975 by Rene Stoppa, in which he described fitting an unsutured Dacron patch between the peritoneum and the muscular layers of the abdominal wall via a median lower abdominal incision.<sup>6</sup>

Stoppas groin hernia repair also called as giant prosthetic reinforcement of the visceral sac. The principle of the surgery is that the implanted mesh acts as a fascia preventing the herniation of the visceral sac through the myopectineal orifice.

The patient was taken under spinal anesthesia. A midline infraumbilical incision was taken extending 2 cm below the umbilicus and 1 cm above pubis symphysis. With blunt dissection, the preperitoneal space was entered. Dissection was done through the retropubic space of retzius and borgos and continued laterally up to the retroinguinal space, remaining posterior to the rectus abdominis. The hernia was identified and then reduced. The same was done on the opposite side. Tension free repair was achieved by dissecting the spermatic cord and gonadal vessels from their peritoneal attachment and placing a mesh. The polyester mesh was placed in the space between the peritoneum and the transversalis fascia without the need for fixation as the intraabdominal pressure holds it flat (in this case, the patient was fitted with a mesh of 15 cm × 15 cm). The size of the mesh is measured on the patient with the width equaling the distance between the anterior superior iliac spines and height equaling the distance between the umbilicus and the symphysis pubis plus 6 cm.<sup>4</sup> The abdomen was closed without placing a suction drain.

The patient was given clear liquids 8 h later and progressed to a soft diet after 12 h. Patient was doing well post-operatively and discharged on post-operative day 3. Patient was advised to avoid lifting weights heavier than 20 lbs. for the first 2 weeks after which he was advised to resume a normal lifestyle without any restrictions. The patient has been followed up post-operatively and is doing remarkably well.

### DISCUSSION

There is considerable debate about the best technique used to repair inguinal hernias. The main factor to take into consideration when comparing various surgical techniques in recurrent hernia cases is the rates of recurrence and anatomic basis of the hernia. There is a general consensus that one must try to avoid using the same technique on a patient that has failed before. Other factors to look at are post-operative complications like infection and chronic pain, length of hospital stay, cost of the procedure, length of the training period, complexity of surgery and operating time so as to minimize the duration of anesthesia.

A study comparing Stoppas technique to Lichtenstein technique showed that patients operated on by Stoppas had shorter operative time, smaller incision length, shorter mean hospital stay, lower scores on the pain score scale and of most vital importance no recurrences compared to Lichtenstein's technique. The Figures reported were that Stoppas repair had operative time of  $52 \pm 20.7$  min compared to  $75 \pm 16$  min using Lichtenstein technique. The length of the incision using Stoppas was  $10.6 \pm 2.7$  cm compared to the sum of bilateral incisions of  $15.5 \pm 3.6$  cm using Lichtenstein. Mean hospital stay was  $2.6 \pm 1.8$  days in patients treated with Stoppas technique compared to  $4.9 \pm 1.3$  days in patients treated with Lichtenstein technique. There were no recurrences in patients treated with Stoppas while recurrences were present in 13.3% of the patients treated with Lichtenstein technique.<sup>7</sup> Another study comparing quality of life outcomes showed that following Stoppas operation long-term quality of life was superior compared to bilateral Lichtenstein technique in bilateral inguinal hernias.<sup>2</sup>

Another study comparing rives technique with that of Stoppas showed that rives technique had a 5.7% recurrence

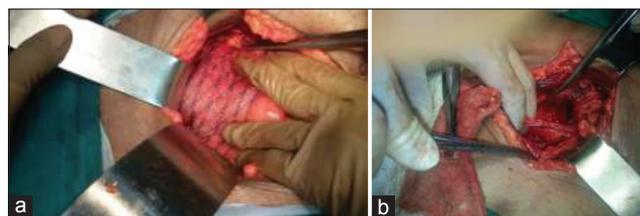


Figure 1: (a) placement of mesh in the preperitoneal plane (b)triangle of doom

rate while patients treated with Stoppas repair had a complete absence of recurrences.<sup>8</sup>

## CONCLUSION

Stoppas procedure is safe and reliable. Theoretically, it is not possible to get recurrences after the procedure, although they do occur occasionally, mostly attributed to errors in size of the mesh and placement of the mesh.<sup>9</sup> It has improved quality of life outcomes, with lower post-operative pain, early return to normal activities and dramatically reducing recurrence rates. It should be offered to all patients with complex, recurrent bilateral hernia.

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