

ORIGINAL ARTICLE

Postoperative Hospital Stay and Return to Normal Activity Following Laparoscopic Varicocelectomy at Kishwar Fazal Teaching Hospital Sheikhpura

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*Department of Surgery, Amna Anayat Medical College/Kishwar Fazal Teaching Hospital Sheikhpura**Correspondence to Dr. Rizwan ali Qaiser, Email: draliqaiser@hotmail.com 0333-4239381***ABSTRACT**

Aim: To evaluate mean postoperative hospital stay and return to normal activity after laparoscopic varicocelectomy at Kishwar Fazal Teaching Hospital Sheikhpura

Method: A total of 45 diagnosed cases of clinically visible varicocele verified by U/S and infertility (primary, secondary) or scrotal discomfort were enrolled in the study from January 2020 uptill August 2022. After routine lab investigation, history and physical examination, the laparoscopic varicocelectomy was performed under general anesthesia, After the surgery done, we evaluated hospital stay subject to post operative pain on VAS and return to normal activity.

Results: Of 45 cases, the mean age was 23.55+5.11 years, mean hospital stay was 1.92+0.84 days, mean duration of surgery was 39.48+3.69 minutes, and return to normal activity was 4.22+1.87 days.

Conclusion: We concluded shorter hospital stay and early return to normal activity after the laparoscopic varicocelectomy is done.

Keywords: Laparoscopic Varicocelectomy, hospital stay, return to normal activity

INTRODUCTION

The disorder known as a varicocele is characterised by a pampiniform plexus enlargement. In the general population, the incidence of varicocele varies from 4.4% to 22.6%, whereas 21–41% of men evaluated for initial infertility and 75%–80% of patients with secondary infertility had varicoceles¹. Despite the fact that the vast majority of men show no symptoms, infertility and persistent scrotal discomfort are two of the most often reported clinical manifestations². One of the most prevalent treatable causes of male infertility³ is a condition called varicocele, which may prevent normal spermatogenesis. Varicoceles may cause discomfort in around 2% to 10% of men who have them⁴. This pain is most often felt in the scrotum or in the inguinal region. More research has been done on Commented [H1]: varicocelectomy for the treatment of male infertility than on discomfort. It is not fully known what causes the discomfort that is associated with varicoceles⁵. It is not quite clear what causes the discomfort that is experienced in conjunction with varicoceles. Varicoceles can affect spermatogenesis and the function of Leydig cells, which can lead to infertility⁶⁻¹¹. Varicoceles can do this by increasing the testicular temperature, venous pressure, hypoxia, oxidative stress, hormonal imbalances, and/or the reflux of toxic metabolites that originate from the adrenal glands or the kidneys. These injuries to the testicles not only cause infertility, but they also cause discomfort in the testicles. An additional element that contributes to the discomfort that is associated with varicoceles is the compression of the neural fibres that are located in the surrounding area by the dilated venous complex¹².

The varicocelectomy is the surgical treatment for male infertility that is performed the most often. These procedures include making an incision and then tying off the veins either via the retroperitoneal, inguinal, or sub inguinal access points. Laparoscopy and percutaneous embolization are two further examples of more sophisticated procedures. In order to successfully treat a varicocele, it is necessary to block the refluxing venous drainage that leads to the testis. During the ligation process, it is imperative that no accessory veins or venecomitants go unnoticed. Because of this, Palomo used the incisional approach to ligate both the testicular veins and the testicular arteries that were located in the retroperitoneum.

Varicocelectomy carries with it the risk of three possible complications: recurrence, the creation of a hydrocele, and testicular atrophy¹³. The varicocelectomy procedure is controversial due to the lack of consensus about the most effective approach. Techniques include microsurgery, laparoscopy, retrograde or anterograde sclerotherapy, open surgical ligation of the spermatic vein, and open surgical ligation of the spermatic vein. Each method has a set of benefits and drawbacks that are unique to it, and the literature on the subject has outcomes that are in conflict with one another^{14,15}.

Since its inception in 1992, laparoscopic varicocelectomy has been a successful treatment option for male infertility. In 1991, Aaberg et al. conducted the first-ever documented laparoscopic varicocelectomy¹⁶. Varicose veins may be ligated with a number of methods, such as electro-surgical devices, surgical silk, and titanium clips¹⁷.

Conventional laparoscopic varicocelectomy, which provides an ideal access to treat varicocele due to clear visualisation of the majority of the involved venous system (internal spermatic vein, external spermatic vein, and deferential veins), still presents the same issue of sperm DNA degradation as previously studied.

In order to determine whether or not laparoscopic varicocelectomy is beneficial in the treatment of persistent scrotal discomfort, we devised the design for this research.

METHODOLOGY

A total of 45 diagnosed cases of clinically visible varicocele verified by U/S and infertility (primary, secondary) or scrotal discomfort were investigated. Preoperative: History, clinical examination, lab investigation: two semen analysis, CBC, coagulation profile, serum creatinine, R.B.S, liver function test, imaging: colour Doppler ultrasonography. Under general anaesthesia, patients were operated on while lying supine position. After administering general anaesthesia, a urinary catheter was placed or the patient was instructed to urinate just before to being taken into surgery. Decompressing the stomach after induction required the insertion of a naso gastric tube. Pneumoperitoneum was induced by inserting a vass needle via a little infra umbilical incision. The stomach was then inflated with carbon dioxide gas to a constant pressure of 12 to 14 mmHg. To move the bowel away from the lower quadrants of the abdomen, the head end of the bed was lowered by between 150 and 300. Once the skin incision was widened to 10 mm, the Veress

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needle was swapped out for a trocar and cannula. Through the 10 mm trocar, a 10mm telescope was introduced. The incisions were made at two-thirds of the way between the umbilicus and the anterior superior iliac spine, and the second and third trocars (10 mm and 5 mm, respectively) were inserted under direct eyesight. Using a grasper and scissors, we made two parallel incisions in the peritoneum overlaying the internal spermatic veins. The veins and arteries were dissected out by lifting the vascular mass. The veins were then ligated using clips or intracorporeal knotting. After making sure the bleeding had stopped, the wound was sutured and the trocars removed. Laparoscopic antiseptic dressings were used. After the surgery done, we evaluated hospital stay subject to post operative pain on VAS and return to normal activity. We used SPSS 21st version for analysis of collected data.

Statistical analysis: The mean duration of surgery was 39.48±3.69 minutes. The severity of pain (VAS) shows no case of pain free, 34(75.56%) had mild pain, 9(20%) had moderate whereas only 2(4.44%) cases were documented with severe pain. The mean hospital stay was 1.92±0.84 days, and return to normal activity was 4.22±1.87 days.

RESULTS

Of 45 cases, the mean age was 23.55±5.11 years. In our study, 29(64.44%) were presented with scrotal pain, 35(77.78%) had testicular swelling whereas infertile cases were 4(8.89%), regarding of site of presentation, we recorded 42(93.33%) had unilateral, 3(6.67%) bilateral, right site was 40(88.89%) while 2(11.11%) had left side (Table 1).

Table 1: Baseline features of patients (n = 45)

Variable(s)	Mean ± SD
Age(years)	23.55 ± 5.11
Presentation	
Scrotal pain	29 (64.44%)
Testicular swelling	35 (77.78%)
Infertility	4 (8.89%)
Site	
Unilateral	42 (93.33%)
Bilateral	3 (6.67%)
Right	40 (88.89%)
Left	2 (11.11%)

Table 2: Outcome of patients (n = 45)

Variable(s)	No. of patients (%)
Duration of surgery (minutes)	39.48 ± 3.69
Severity of pain (VAS)	
Absent Nil	0(0.0%)
Mild (0-3)	34 (75.56%)
Moderate (4-6)	9 (20%)
Severe (7-10)	2 (4.44%)
Hospital stay (days)	1.92 ± 0.84
Return to normal activity (days)	4.22 ± 1.87

DISCUSSION

Around 15% of people have varicoceles. Infertile guys had 34-40% prevalence. Varicoceles are known to damage testicular development and reproductive function. 8-45 years old participate¹⁸. Most patients experience scrotal edoema, discomfort, and infertility¹⁹. Since 1991, Winfield and colleagues' laparoscopic varicocelectomy has been popular²⁰. Laparoscopic surgery had the same success rate as open surgery, reduced morbidity, and faster recovery.

In our study, the total time spent for operating was somewhere between 30 and 60 minutes, with an average of 39.48 minutes. Following the conclusion of the training session, the authors of the study Jimenez Garrido A et al²¹ found that the average amount of time it took to perform a laparoscopic varicocelectomy was 44 minutes. The amount of time needed for operation during laparoscopic surgery is noticeably longer than the amount of time needed for open surgery²². Analgesic requirements of patients ranged from two to three doses in the post-operative

period, with an average of 1.70 doses per patient^{19,23}. The vast majority of patients reported feeling only minor pain, and the VAS scale indicated that their level of discomfort was light.

We found that the average length of stay in the hospital was 1.92 days. The length of time spent recovering from surgery in our study was on par with that seen in other published series. According to the findings of Osman T et al²⁴, the post-operative hospital stay for open varicocelectomy was 52 hours. It was observed by Zain H. Al-Sharief et al^{19,22} in their series that patients who were from the city or nearby areas gladly accepted early discharge from the hospital, whereas some patients who were from far-flung areas were mentally unprepared to get their discharge early. This was observed in patients who had a reported hospital stay of two days. It was observed that there was a need to encourage and inform patients about the genuine advantages of laparoscopic varicocelectomy, including the possibility of departure from the hospital earlier than expected. According to our data, the average amount of time needed to go back to regular employment is 4.22 days (range: 2-6 days), which is close to the relevant research.

Another research found that laparoscopic varicocelectomy was safe and effective in treating varicoceles in 100 patients who were all treated at the same teaching hospital. Where the typical length of time spent in the hospital was just 0.9 days, and where the median amount of time spent recovering was only 5 days. In conclusion, laparoscopic varicocelectomy is a risk free method of treating varicoceles. It is just as effective as open spermatic vein ligation, and it allows the patient to have a shorter stay in the hospital and a speedier healing time thereafter²⁵.

Consistent with other studies, another study revealed that laparoscopic varicocelectomy is an effective therapy for symptomatic varicoceles, and there is a minimal risk of complications after the procedure. However, it is important to pick patients carefully since it seems that those who arrive with severe testicular discomfort that radiates throughout the body and/or a low-grade varicocele are less likely to benefit from this surgery¹³.

The laparoscopic method is associated with a lower risk of post-operative morbidity; patients have less post-operative discomfort, and they are able to go back to work sooner. Additionally, in cases of bilateral varicoceles, both sides may be treated using the same ports. Therefore, if the necessary facilities are available for this surgery and after the minimally invasive approach has been perfected, this is the procedure that brings a great deal of happiness to both the patients and the operating surgeon.

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Ethical Approval: Approval granted by hospital Ethical Review Board.

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