LAPAROSCOPIC VS OPEN HIGH LIGATION OF VARICOCELE LOCAL EXPERIENCE

Muhammad Yunas Khan[1], Qutbi Alam Jan[1], Muhammad Kalim[2], Sana Sahar[1], Rashid Waheed[1], Bilqees[1], Mehmood[1], Faryal Eid[1], Hira Shams[1]

ABSTRACT

The history of varicocele is very old (1500-15-90), idiopathic varicocele is the commonest condition. In surgical procedure, open surgical technique is used commonly but with the introduction of laparoscopic varicocelectomy we are now preferring regular laparoscopic varicocelectomy.

Material and Methods: This was a prospective study. We included 60 patients admitted through OPD from February 2015 - February 2017.All patients were divided randomly into two groups for open technique and laparoscopic technique.

Results: In our study 60 patients were included the age range was from 20-48 years.26 patients were asymptomatic ,60 % patients of Group I presented with dragging pain while 46% of Group II. Grade II varicocele 73.3% was commonest.16.3% of the patients presented with swelling in scrotum. Post-operative pain was common in Group I 40%. Only 26.6% of patients developed mild hydrocele in Group I.

Key words: Varicocele, Varicocelectomy, Paloma's

INTRODUCTION

The history of Varicocele is very old. First Ambroise Pare recognized varicocele.[1] Varicocele is rare entity before puberty.[2] Varicocele is rare before puberty but in adults the prevalence of varicocele is equal in general male population 12.4 to 16.2 % with average of 15%.[3,4] The incidence of infertility is approximately 40%.[5,6] Varicocele also affects fertility progressively.[7] Varicocele is dilated tortuous veins in the spermatic cord.

Varicocele is usually asymptomatic and is usually detected during routine examination. But sometimes may present with dragging pain or infertility.[8] Varicocele is more common on left side due to longer course than right side. Left Testicular vein is liable to get compressed by loaded colon.

We included 60 patients of 20-48years in four study from February 2015- February 2017, randomly divided into two groups. In Group I we performed open high ligation while in group II we did laparoscopic varicocele ligation. Semen analysis was performed in both groups before surgery.

MATERIAL AND METHODS

This study was conducted in Department of surgery Khyber Teaching Hospital Peshawar from February 2015- February 2017.Grade II varicocele were included in this study. In our study total 60 patients were divided randomly in two Groups. Group I 30 patients who underwent open surgical while group II included 30 patients who underwent laparoscopic surgery. The age range was from 20-48 years.

Surgical Technique

Group I: Open high ligation (Paloma's)technique

Group II: Laparoscopic high ligation

Laparoscopic procedure was performed under General Anesthesia. Pneumoperitoneum was created through open technique,3 ports were inserted one in supraumbilical 10mm and two 5mm working ports in both iliac fossa. Surgeon standing on contralateral side while assistant on ipsilateral side. The gonadal vessels ligated 5cm from deep ring.

RESULTS

In our study we included 60 patients divided into two groups in Group I – Open surgery (Palomas) and in Group II Laparoscopic high ligation was done. The age range was from 20-48 years.26 patients of both groups were asymptomatic and were sent for surgery during routine medical checkup for recruitment in Armed forces.60% (18) of patients in Group I presented with dragging pain while 46.6% (14) in Group II presented with dragging pain.20%(6) of Group I and 13.2%(4)of group II patients presented with infertility. According to the grading of varicocele in Group I, Grade I patients were 6.6%(2), Grade II 73.3%(22) and Grade III 13.2%(4) while in Group II Grade I patients were 20.0%(6), Grade II 66.6%(20) and Grade III 6.6%(2).

1 Department of Surgery Khyber Teaching Hospital
2 Department of Surgery HMC Peshawar

Address for correspondence:
Dr. Muhammad Yunas Khan
Assistant Professor of Surgery
Department of Surgery Khyber Teaching Hospital
Email: dryunaskhan70@gmail.com
Cell no: +92-333-9135724

20%(6) patients of Group I and 16.3%(5) patients of Group II presented with swelling in scrotal region. The time duration of surgery in open (Group I) was from40-45 minutes while in laparoscopic (Group II) it was 30-45 minutes. The patients included in our study were having Left sided varicocele 83.3% and bilateral varicocele in 16.6%.

Following open surgery 20%(6) experienced mild pan while 40%(12) experienced moderate pain. On the other hand, in laparoscopic group mild pain was in 33.3%(10) while 16.6%(5) experienced moderate pain. No body complained of severe pain. Only 26.6% developed mild hydrocele in Group I patients. Wound infection was 6.6%(2) in Group I while no port site infection was observed in group II patients.

Table 1: Grades Vs Symptoms of disease

Symptoms	Group I (open) (30)	Group II (laparoscopic) (30)
Dragging pain	18(60.00%)	14(46.6%)
Infertility	6 (20.0%)	4(13.2%)
Grades		
Grade I	2(6.6%)	6(20.0%)
Grade II	22(73.3%)	20(66.6%)
Grade III	4(13.3%)	2(6.6%)
Swelling	6(20%)	5(16.6%)

Table 2: Post op semen analysis

	Group I (open) test done 8 patients	Group II (laparoscopic) test done 8 patients
Improved	4/8(50%)	2/8(25%)
Not improved	2/8(25%	4/8(50%)

Table 3: Post-operative pain

	Group I (open) (30)	Group II (laparoscopic) (30)
Mild pain	6 (20.0%)	10(33.3%)
Moderate pain	12(40%)	5(16.6%)

DISCUSSION

This history of varicocele starts from 1^{sr} century when Abol-Ghasten mentioned that varicocele leads to testicular atrophy. Varicocele is rare before puberty but 12.4-16.2 % of the adult male are affected by varicocele.[3,4] Varicocele is attributed to the incompetence of internal spermatic veins valves.[9]20% of patients develop varicocele by collateral channels despite competent venous channels.[10,11] The clinical grading of varicocele is :

Subclinical: detected on imaging

Grade I: palpable On Valsalva manure

Grade II: palpable on physical examination

Grade III: visible on inspection

The soul indication of surgery in asymptomatic patients is that surgery will improve fertility, will decrease decline in fertility with progression of disease.[12,13]

The age range is our study was 20-48 years with mean age of 32 years. In our study 60% of the patients in Group I with dragging pain and >3.33% patients presented with grade II varicocele.20% of the patients in Group I presented with scrotal swelling. The time duration of surgery was comparable to the study by Dunovan and Winfield[14] 40-50 minutes.

Laparoscopic varicocelectomy was easier then open technique. Laparoscopic varicocelectomy is done as day case in the west but our patients admitted for one day.[15,16,17] The complication of both groups was compared in Group I 40% experienced moderate pain. Pain relieved by narcotic analgesia while 16.6% in Group II experienced moderate pain.

The post-operative semen analysis showed improvement in 25% in Group II while 50% in Group I patients. No change observed in 50%. Mild Hydrocele was observed in 26.6% of patients in Group Hospital stay was not affected by unilateral or bilateral varicocelectomy.[18,19]

CONCLUSION

Laparoscopic varicocelectomy is minimal invasive procedure. Bilateral varicocele is easily performed by laparoscopically with same ports and also hernia repair and orchidopexy can be performed in the same setting. Our experience with laparoscopic varicocelectomy was better than conventional procedure.

REFERENCES

1. Verma D, Lal C, Sharma A, Sirwi M. Laparoscopic versus open surgical management of idiopathic varicocele: a study on 100 patients. International Surgery Journal. 2017 Aug 24;4(9):3071-6.
2. Tan SM, Ng FC, Ravintharan T, Lim PH, Chng HC. Laparoscopic varicocelectomy: technique and results. British journal of urology. 1995 Apr;75(4):523-8.
3. El-Gohary MA. Boyhood varicocele: an overlooked disorder. Annals of the Royal College of Surgeons of England. 1984 Jan;66(1):36.
4. Buch JP, Cromie WJ. Evaluation and treatment of the preadolescent varicocele. The Urologic clinics of North America. 1985 Feb;12(1):3-12.
5. Honig SC, Thompson S, Lipshultz LI. Reassessment of male-factor infertility, including the varicocele,

sperm penetration assay, semen analysis, and in vitro fertilization. Current opinion in obstetrics & gynecology. 1993 Apr;5(2):245-51.

6. Gorelick JI, Goldstein M. Loss of fertility in men with varicocele. Fertility and sterility. 1993 Mar 1;59(3):613-6.

7. Witt MA, Lipshultz LI. Varicocele: a progressive or static lesion?. Urology. 1993 Nov 1;42(5):541-3.

8. Shamsa A, Mohammadi L, Abolbashari M, Shakeri MT, Shamsa S. Comparison of open and laparoscopic varicocelectomies in terms of operative time, sperm parameters, and complications. Urology journal. 2009 Aug 20;6(3):170-5.

9. Kass EJ. Adolescent varicocele: current concepts. Semin. Urol.. 1988;6:140-5.

10. Cicigoi A, Bianchi M. Early diagnosis and correct treatment of varicocele in puberty. Archivio italiano di urologia, nefrologia, andrologia: organo ufficiale dell'Associazione per la ricerca in urologia= Urological, nephrological, and andrological sciences. 1991 Dec;63(4):409-13.

11. Marsman JW. The aberrantly fed varicocele: frequency, venographic appearance, and results of transcatheter embolization. AJR. American journal of roentgenology. 1995 Mar;164(3):649-57.

12. D'Agostino S, Belloli GP. Primary varicocele: An underestimated pathology in childhood and adolescence. La Pediatria medica e chirurgica: Medical and surgical pediatrics. 1992;14(1):7-12.

13. D'Agostino S, Musi L, Colombo B, Belloli G. Varicocele: An epidemiological study and indications for treatment. La Pediatria medica e chirurgica: Medical and surgical pediatrics. 1994;16(6):527-30.

14. Donovan JF, Winfield HN. Laparoscopic varix ligation. The Journal of urology. 1992 Jan 1;147(1):77-81.

15. Tan SM, Ng FC, Ravintharan T, Lim PH, Chng HC. Laparoscopic varicocelectomy: technique and results. British journal of urology. 1995 Apr;75(4):523-8.

16. Winfield H, Donovan J. Laparoscopic Varicocelectomy: Sem Urol. 1992;10:152

17. Gehr NR. Ambulatory laparoscopic varicocelectomy. The first experiences. Ugeskrift for laeger. 1996 Apr;158(15):2123-5.

18. Parrott TS, Hewatt L. Ligation of the testicular artery and vein in adolescent varicocele. The Journal of urology. 1994 Aug 1;152(2):791-3.

19. Yamamoto M, Tsuji Y, Ohmura M, Hibi H, Miyake K. Comparison of artery□ligating and artery□preserving varicocelectomy: effect on post□operative spermatogenesis. Andrologia. 1995 Jan 2;27(1):37-40.