



To Evaluate the Outcome of Epididymal Cystectomy at Liaquat Medical College Hospital Jamshoro Pakistan

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Authors' contributions

This work was carried out in collaboration among all authors. Author ZHL designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors ZHL and AA managed the analyses of the study and managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Introduction: Epididymal cystectomy is the procedure in which removal of cyst attached to epididymis is done. The cyst contains clear/straw colored fluid. It is excised because of its increasing size causing discomfort or pain to patient.

Methodology: A Cross sectional observational study was conducted at Surgical Unit 1, Department of Surgery LMC Hospital Jamshoro from January 2020 to January 2021. All the patients were admitted through Surgical OPD (SOPD) with cystic swellings in scrotum. History and clinical examination of inguino-scrotal region was done. Transillumination test was also done. Ultrasound was obtained to confirm the diagnosis, number of cysts, sizes and site of cyst. Hydrocele, spermatocele and testicular malignancies were ruled out through investigations. Surgery was planned after getting cardiac and anesthesia fitness. The surgery was done. Patients

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were shifted to ward and assessed for 3 to 5 days. Patient was called for follow up for 6 months. Results were analyzed using statistical package for social sciences (SPSS) version 23.

Results: Total patients included in our study are 49.32 (65%) patients had solitary cyst and 17 (35%) had multiple cysts. 30 (61.2%) patients had left sided epididymal cysts and 19 (38.7%) had right sided cysts. Hematoma was developed by 6.1%, chronic pain by 12.2%, infection by 8.1%, scrotal edema by 10.2% and recurrence by 6.1% patients.

Conclusion: Epididymal cystectomy is the procedure with better outcome and least complications rate.

Keywords: Epididymis; hematoma; infection; recurrence; scrotal edema.

1. INTRODUCTION

An epididymal cyst is simply defined as a cyst containing fluid found in epididymis. It is a benign lump in the testicle and prevalence increases as age progresses. It is different from spermatocele as former contains fluid and latter is cystic swelling filled with sperms. It is also different from epididymitis. Inflammation of epididymis tubes either bacterial or viral is called epididymitis [1]. The term "Epididymal Cyst" was unveiled by Guerin in 1785 A.D in a young male. Later, Liston in 1840 A.D described its cystic structure and described it to contain spermatozoa and seminal fluid. Bissada et al. in 1976 described this condition in Children as a case of unusual scrotal findings were present [2]. Epididymal cyst present as a pea-sized or larger ball behind or below testicle whereas in case of spermatocele, the cyst is mostly found on the top of testicle. Dull pain in the scrotum, a feeling of heaviness, redness on the scrotum sometimes, and pain in the groin or lower back pain or abdomen. Usually the swelling is painless. It is common and harmless. Etiology is unknown. It is incidentally found during self examination or by the physician during scrotal examination. Transillumination test is positive [3]. Ultrasound of scrotum can also be obtained to confirm the diagnosis by delineating the anatomical structures of scrotum and blood flow of the area. It also differentiates whether mass is cystic or solid. Ultrasound is very important because it is very difficult to differentiate epididymal cyst from spermatocele on clinical examination. Doppler ultrasound unveils the condition accurately by observing echo-free cystic structures on epididymis and all testicular dimensions viz length, width and transverse diameter [4]. Mostly, these cysts are treated when there are symptoms of causing pain and feeling discomfort otherwise small and asymptomatic swellings are monitored regularly by self examination and physician follow up. If epididymal cysts are getting larger causing pain, there are multiple

options to treat them. Surgical option is commonly used to cure these cysts. Excision or removal is the better option [5]. Other options are aspiration of fluid by needle but the demerit of this method is re-accumulation of fluid. Another way to treat epididymal cyst is percutaneous sclerotherapy. This is less invasive procedure and is done on outpatient department (OPD) basis. This is done with help of ultrasound and ethanol is inserted into cyst to kill the cells of cyst through catheter. Third option is excision/removal of cyst which has least disadvantages [6].

The rationale of our study is to find out management options so that the better option be used for the benefit and betterment of patient so that patients may be saved from economic loss and psychological trauma.

2. METHODOLOGY

This is a cross sectional study conducted within 1 year of 49 patients, admitted at Surgical Unit 1, Department of Surgery Liaquat Medical College Hospital Jamshoro from January 2020 to January 2021. All the patients were admitted through Surgical out Patient Department (OPD). All had scrotal swellings. Proper history was taken and thorough clinical inguino-scrotal examination was done. Transillumination test was also done. All clinical tests were also done to exclude other conditions of inguino-scrotal region. Ultrasound was obtained to confirm the diagnosis, number of cysts, sizes and site of cyst. Hydrocele, spermatocele and testicular malignancies were ruled out through investigations. Regional lymph nodes were palpated. Routine blood investigations were done. Viral markers were done. Corona virus test was specifically done. HIV test was also obtained. The diagnosis was made. Surgery was planned after briefing the surgical procedure to patient herself as well as attendants along with pre operative and postoperative complications. Consent was taken

and patients were shifted to Operation Theater. The surgery was done. Patients were shifted to ward and assessed for 3 to 5 days. Patient was called for follow up for 6 months.

Results were analyzed using statistical package for social sciences (SPSS) version 23.

3. RESULTS

Total patients included in our study are 49.32 (65%) patients had solitary cyst and 17 (35%) had multiple cysts (Fig. 1).

30 (61.2%) patients had left sided epididymal cysts and 19 (38.7%) had right sided cysts (Fig. 2).

Age ranged between 18 to 62 years. 10 (20.4%) age was between 18 to 27 years. 30 (61.22%) aged between 28 to 40 years. 9 (18.3%) patients age was of 41 to 62 years (Table 1).

Epididymal cysts were removed and postoperative outcome was noted to see the final outcome (Table 2).



Fig. 1. Multiple cysts and solitary cysts wise distribution of the patients



Fig. 2. Epididymal cysts locality wise distribution of the patients

Table 1. Age wise distribution of the patients

S. no.	Age in years	No. of patients	Percentage
1.	15-27	10	20.4%
2	28-40	30	61.22%
3	41-62	9	18.3%
Total	15-62	49	100%

Table 2. Complications of epididymal cystectomy

S. no.	Complications	No. of patients	Percentage	P-value
1	Fever /Chills	5	10.2%	0.014
2	Hematoma	3	6.1%	0.145
3	Chronic Pain	6	12.2%	0.010
4	Infection	4	8.1%	0.110
4	Scrotal edema	5	10.2%	0.016
5	Recurrence	3	6.1%	0.145

4. DISCUSSION

Epididymal cysts are the unilocular or multilocular collection of fluid in epididymis as a result of efferent epididymal tubules due to their obstruction. The studies show that pro-inflammatory cytokines are produced locally and elevated Interleukin -8 (IL-8) and interleukin-6 (IL-6) form epididymal cyst. Its prevalence is common in young age. Bilateral development is occasional. It is uncommon in pediatric age group. Common presentation is presence of swelling in scrotum detected while doing physical examination [7]. One study shows, Epididymal cysts are more common around the age of 40 years. But in our study, 61.22% patients presented aged more than 28 years. Some studies have shown that it usually occurs 1 in 6 men. In a study, epididymal cyst presented as acute scrotum. Blevé et al presented one case of torsed right sided epididymal cyst and 7 cases of left sided. Erikci et al also presented case study regarding this condition. But in our study, none of case presented with acute scrotum. In some studies, the cysts are associated with other conditions like cystic fibrosis and polycystic kidney disease. In our study, no any associated disease was found in patients [8]. Hematoma can occur after excision of cyst. It is collection of blood in scrotum. In a study, 9.0% patients developed hematoma. Generally, it settles down with second surgery and gets absorbed like a bruise but in patients less than 1%, they need exploration [9]. In our study, only 3 (6.1%) patients developed postoperative hematoma and none of patient was re-explored.

Rarely infection may occur and patients develop fever. In a study, infection was seen to be among

5%. This is treated conservatively. In our study, fever was developed by 10.2% patients and wound infection was noted among 8.1% [10]. One study shows recurrence rate of 5% and in another study, it was 7.2% but in our study, the recurrence was 6.1%. Some studies have recorded the postoperative chronic pain but in our study, chronic pain was recorded to be 12.2%. Scar tissue of Surgery is felt like 'lumpy' and this complication can be constant. It can occasionally obstruct the narrow tubes of epididymis and can cause infertility on that side [11].

5. CONCLUSION

In short, it is summed up that epididymal cystectomy is the better option to treat the cyst and epididymal cystectomy has least complications rate but still it needs more precautions and suggestions to improve the outcome of this procedure.

CONSENT

Informed consent was taken and preserved by the authors.

ETHICAL APPROVAL

Research Ethics Committee of Liaquat University of Medical and Health Sciences (LUMHS), Jamshoro, Sindh, Pakistan gave the approval to conduct the study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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