

Original Research Article

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Treatment of cystic swelling of scrotum: a clinical analysis

Rahul Charpot, Kunal Modi*

Department of Surgery, GMERS Medical College, Sola, Ahmedabad, India

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***Correspondence:**

Dr. Kunal Modi,

E-mail: kunalmodimbbs@gmail.com

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ABSTRACT

Background: Cystic swellings of scrotum are usually painless and can attain a very big size without causing much discomfort. Management of cystic swelling of a particular type can be done in various ways; hence there is a necessity to study the ideal modality of management for each type of cystic swelling of scrotum possible in our setup of rural hospital.

Methods: A total of 100 cases of cystic swellings of scrotum fulfilling the methodology criteria's were subjected to preformatted study. Final diagnosis was made with clinical examination and ultrasonography of scrotum. All cases were treated surgically.

Results: Most of the patients were in age group of 51-60 years (30%), presenting feature being scrotal swelling as a main complaint in 86% of cases, majority of them were right sided (60%), primary vaginal hydrocele was the commonest cystic swelling (76%), followed by epididymal cyst, spermatocele, sebaceous cyst. Lord's plication was the procedure, which was associated with early discharge of the patient and least post-operative complications.

Conclusions: Primary vaginal hydrocoele was the commonest cystic swellings of scrotum. Most of the cystic swellings were treated surgically with good results. Lord's procedure was the least to have post-operative complication.

Keywords: Cystic swelling, Hydrcoele, Surgical treatment, Scrotum

INTRODUCTION

Cystic swellings are the most widespread surgical dilemma of the scrotum. They affect the physical well being and ensuing in mental anguish for him. They can be the grounds for sexual and marital life of subjects. They can also augment the economic and psychological weight of subjects and their families. They are defined as irregular collections of fluid within the scrotal cavity. They influence males of all age groups and relation for the widespread of all scrotal swellings.^{1,2}

The scrotum is a sac of skin and instinctive muscles enclosing the testis, epididymis, vas dissimilarity and spermatic vessels. It is a phylogenetic sophistication of the genito urinary system. The scrotum functions to offer

apt surroundings to the testis for optimal spermatogenesis, which is so significant for perpetuation of a race. In other words scrotum is the thermo regulator of spermatogenesis.^{3,4}

Most of the scrotal swellings are benign. The etiology is assorted and ranges from the commoner swellings such as hydroceles, spermatoceles, and epididymal cysts to less widespread ones such as hematocele, pyocele, and chylocele.⁵

Cystic swellings of scrotum are frequently trouble-free and can achieve a very big size devoid of causing much uneasiness to subject. The mortality from this state is insignificant. The scrotum is liable to traumatic injury owing to their hanging down place and mobility important on to hematocele.⁶

Hence, although mortality connected with this situation is insignificant, morbidity can be noteworthy. The etiology of the cystic grounds of scrotal enlargement is assorted, it ranges from hydrocoele, to spermatocoele and epididymal cyst to less ordinary ones like haematocoele, pyocoele and chylocoele. Most of these swellings are benign.⁷

The cystic swellings comprise a broad spectrum of etiopathology and can present in any age group. The ample spectrum of the condition demands the significance to discover the most widespread cause and their age wise allocation and so better thoughtful for a determined and particular management of the form.⁸

Present research aims to look into the different pathologies of the scrotum and its contents, which present as scrotal swelling; and to emphasize upon the finest way to loom them; in order to reinstate the anatomy and physiology to the most possible level. Management of cystic swelling of a meticulous type can be completed in diverse ways; hence there is a requirement to study the ultimate modality of management for each type of cystic swelling of scrotum possible in our setup of rural hospital.

METHODS

Study type, study place and study period

In the present Hospital Based observational study, a total of 100 cases were selected from the patients who were admitted in different surgical units in GMERS Medical College and Hospital Ahmedabad, for a period of two years from March 2019 to February 2021.

Inclusion criteria

Patients aged up to 70 years, cystic swellings from testis, and its coverings, epididymis, spermatic cord and from the scrotal skin are included in this study.

Exclusion criteria

Acute swellings of the testis, inguinoscrotal swelling, torsion of testis, congenital hydrocele are excluded in this study.

Method of collection of data

After the approval by the Institutional Ethical Committee of the Medical

College and Hospital, 100 patients aged upto 70 years were enrolled in this clinical study with written informed consent. Patients admitted with symptoms of swelling, pain, discomforts in the scrotal region were studied with facilities available in the hospital, through a preformed proforma comprising of:

Detailed history

Patient's age and occupation was recorded, duration of swelling and pain or associated fever, trauma were asked.

Clinical examination

Local examination

Skin and swelling itself with two cardinal signs fluctuation and translucency, testis, epididymis and spermatic cords are examined along with regional lymphnodes and findings were noted.

Systemic examination

Respiratory and per abdomen examination were done.

Routine laboratory investigations

Blood investigations were done to rule out eosinophilia and microfilaria, lymphocytosis and increased E.S.R.

Urine examination

It is done to rule out associated any urinary tract infection.

Scrotal ultrasound was done in all cases

It was done to see any changes in testis and other structures in scrotum. Pre anaesthetic evaluation and fitness for surgery was by done anaesthesiologist. Surgical procedure was tailored according to the patient's disease by the attending surgeon under suitable anaesthesia given by anaesthesiologist. Intraoperative findings as color of the fluid if any testicular changes epididymis condition are recorded.

Corrugated rubber drain was placed in most cases and removed after 48-72 hours depending on the clinical situation. Postoperative scrotal support was given in all the cases. Histopathological study of the specimen and biochemical analysis of the fluid was done in relevant cases. Postoperative course and management of postoperative complications like fever, scrotal edema, hematoma, and infection were recorded. At discharge, all the patients were educated about the disease and were requested to come for follow-up at the outpatient department. Finally follow up was carried out for 1-4 months.

Statistical analysis

The recorded data was compiled and entered in a spreadsheet computer program (microsoft excel 2007) and then exported to data editor page of Statistical package for social sciences (SPSS) version 15 (SPSS Inc., Chicago, Illinois, USA). For all tests, confidence

level and level of significance were set at 95% and 5% respectively.

RESULTS

This was a clinical study to observe the distribution of types of cystic swellings of scrotum and pattern of clinical presentation and to study the different treatment modalities.

Table 1: Age wise distribution of study participants.

Age group (years)	Number	Percentage	P value
11-20	4	4	
21-30	15	15	
31-40	18	18	
41-50	26	26	
51-60	30	30	0.01*
61-70	7	7	

* indicates statistically significance at $p \leq 0.05$. Test applied chi-square test

Table 2: Different conditions that lead to scrotal swelling.

Diseases	No. of cases
Primary hydrocele	76
Epididymal cyst	16
Sebaceous cyst	6
Spermatocele	2
Total	100

Table 3: Different treatment approaches done scrotum swelling.

Treatment	No. of cases
Lord's placation	8
Partial excision and everesion	6
Joboulay's procedure	60
Excision	26
Total	100

A total of 100 cases were studied during the period of two years in medical college and hospital. The youngest patient was 18 years of age whereas the oldest patient was 68 years of age. (Table 1) Maximum numbers of cases were observed in 51-60 years age group 30 cases followed by 41-50 years age group 26 cases. Minimum number of cases was seen in 11-20 years age group 4 cases. Difference between age groups was significant statistically ($p \leq 0.05$)

Most of the patient presented with swelling as chief complaint 86 cases, 14 cases had pain along with scrotal swelling. Sidewise distribution of cystic swellings of scrotum indicated higher incidence on the right side of the scrotum accounting for 60 of cases. Total of 30 cases

were seen on the left side. While bilateral swelling constituted 10 cases of all cases among these 1 case was multiple sebaceous cyst.

Primary vaginal hydrocele formed the most common cause of cystic swellings of the scrotum encountered in this study. Next common cause being epididymis cyst which constituted in 16 cases. Other causes were Spermatocele in 6 cases and multiple sebaceous cyst in 2 cases.

The age distribution of primary vaginal hydrocele varied from the age group of 11-20 years up to 61-70 years. Maximum number of cases of primary vaginal hydrocele was encountered in the age group of 41-50 and 51-60 years- 11 cases each followed by 6 cases in the age group of 61-70 years. Minimum number of cases of primary vaginal hydrocele was noted in the age groups of 11-20 years 1 cases. Epididymal cysts were encountered in all the age groups except in the age group of 21-30 years and 61-70 years. Maximum number cases of epididymal cysts were found in the age groups of 31-40 years with 6 cases, followed by 4 cases in the age group of 41-50 years and 51-60 years each. Least number of cases of epididymal cysts was encountered in the age groups of 11-20 years. Spermatocele was encountered in the age groups 51-60 years, with 4 cases. There were 2 cases recorded in age group 31-40 years. Multiple sebaceous cyst was seen in age group 61-70 years age group. Difference between age groups was significant statistically ($p \leq 0.05$)

Primary vaginal hydrocoele was treated by Lord's plication in 8 cases, Eversion of sac in 60 cases, partial excision and eversion of sac 6 cases. Epididymal cyst, spermatocele, and sebaceous cyst were excised accounting for 26 cases, of which 2 case of multiple sebaceous cyst was treated by excision of skin and primary suturing. Per-operatively, normal testis was observed in 96 cases; 4 cases showed flattening of testis in Primary vaginal hydrocoele. Inflamed testis was not seen.

A total of 66 patients were discharged between 0- 5 days, earliest was among excision for sebaceous cyst, 32 patients were discharged between 6-10 days and 2 patient was discharged between 11-15 day. Patients who underwent Lord's procedure had a record of early discharge than compared to eversion of sac for primary vaginal hydrocoele.

DISCUSSION

The swelling in the scrotum area occurs in all age groups. In the present research total of 100 patients were included in the research work. The maximum numbers of patients were seen in age group of 51-60 years followed by age group of 41-50 years. There are no predisposing factors found in the above cases. Most of the patients presented with the only complaint of swelling of the scrotum. A few patients complained of scrotal swelling with pain.

These complain are similar to the report of Subith et al in which swelling alone was the main presenting complain.²

On comparison of side for the swelling, maximum numbers of patients were seen on right side as compared to left side. Only 10 cases were seen on bilateral sides. The results were in accordance with the study done by Agbakwuru et al in 2008 and Subith et al in 2014.^{2,9}

The conditions were confirmed with scrotal ultrasonography. The swellings were either ovoid or globular in shape. Primary hydrocele was seen as the common cause for the scrotal swellings. Next cause for swelling was found to be epididymal cysts. The other causes encountered in the study were spermatocele (6%), sebaceous cysts of the scrotum. Similar distribution of cystic swelling of scrotum was reported by Agbakwuru et al in their study of 50 cases where 94% and Subith et al in 55% were primary vaginal hydrocele respectively.^{2,9} These findings are also in agreement of various studies.¹⁰⁻¹⁴

All the cystic swellings of scrotum were treated with surgical treatment. For the surgical treatment maximum patients were administered spinal anaesthesia and only 4 cases were given general anaesthesia. The general anaesthesia was administered only in younger patients. Local anaesthesia was employed only in 2 cases.

Three procedures were employed in the treatment of primary vaginal hydroceles- Jaboulay's procedure, Lord's plication and Partial excision and eversion of the sac. Jaboulay's eversion of sac was done for primary vaginal hydrocele in 60% cases with a large and tense swelling with thin sac. Excision was done for epididymal cysts and spermatoceles.

For primary vaginal hydroceles, Lord's plication had no postoperative complications with as compared to Partial exision and eversion of sac and Jaboulay's procedure. Because dissection of the hydrocele sac increases the morbidity, and oedema is caused by excessive handling and wide dissection of the tissue, the excisional technique may cause more tissue oedema, haematoma in 2 cases and no infection. This observation is comparable with Ku et al and Subith et al in 2014.

The post-operative haematoma is mainly due to the stripping of the hydrocele sac from the surrounding tissues resulting in generalised oozing. In Lord's plication, the cleavage between the sac and the surrounding tissue is not opened and so generalized oozing is prevented as well as haematoma formation, and infection is avoided. This study shows that Lord's plication is effective, safe and economical and is complication was noticed in only 2 case of primary vaginal hydrocele.

In the present study, out of 45 cases of unilateral primary vaginal hydrocele, in only 1 case there was flattening of

the testis, which was comparatively longstanding. There was no case of testicular atrophy. The long duration of the hydrocele along with more volume of hydrocele fluid in Dandapat series might be the reason for more number of cases of testicular flattening and atrophy similar observation noticed in Srinath et al where no flattening or atrophy seen and Subith et al where flattening of testis were noticed in 19 cases.⁹

Most of the patient was discharged within 5 days. but some patients who developed scrotal edema and infection were kept till 11-15 days this observation were comparable with Effrnan et al where most patients discharged within 5 days, Rai et al, Usman et al and Subith et al.

Patients were then followed up for 2-4 months, there was no recurrence of lesion in the patients followed up during this period. As the sample size of the study is less we can not generalized the results to other population.

CONCLUSION

A cystic swelling of the scrotum poses a common surgical problem. Primary vaginal hydrocoele was the commonest cystic swellings of scrotum. Most of the cystic swellings were treated surgically with good results. Lord's procedure was the least to have post-operative complication.

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