

ORIGINAL RESEARCH

Clinical Investigation and Management of Scrotal Cysts

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ABSTRACT

Background: Scrotal cystic swellings can grow to enormous sizes without generating any pain. They are often painless. It is necessary to research the best method of care for each type of scrotal cystic swelling that can be treated in nizams institute as there are several ways to treat different cystic swellings.

Martial and Methods: One hundred cases of scrotal cystic swellings that satisfied the methodological criteria were examined in advance. Ultrasonography of the scrotum and a clinical examination led to the final diagnosis. Surgery was used to treat every instance.

Results: The majority of patients (60%) were right-handed, and the majority of the patients (86%) had scrotal swelling as their primary complaint. Primary vaginal hydrocele was the most prevalent cystic swelling (76%) and was followed by epididymal cyst, spermatocele, and sebaceous cyst. The treatment known as the Lord's plication was linked to early patient discharge and few post-operative problems.

Conclusion: The most typical cystic enlargement of the scrotum was primary vaginal hydrocoele. The majority of the cystic swells were successfully surgically corrected. Lord's surgical technique had the fewest post-operative complications.

Keywords: Surgical procedure, scrotom, hydrcele, cystic edoema, and cystic enlargement.

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INTRODUCTION

The most frequent scrotal surgical challenge is cystic swellings. They have an impact on his physical health, which causes him mental suffering. They may serve as the foundation for a subject's sexual and marital life.^[1,2] Additionally, they can increase the financial and psychological heft of subjects and their families. They are described as atypical fluid accumulations in the scrotal cavity. They have an impact on men of all ages and are connected to the prevalence of all scrotal swellings.^[3] The testis, epididymis, vas and spermatic vessels are all contained within the scrotum, which is a sac of skin and innate muscles. The genito urinary system has a sophisticated phylogenetic structure.^[4-6] The scrotum serves to provide the testis with the ideal environment for spermatogenesis, which is crucial for the continuation of a race. In other terms, the scrotum controls spermatogenesis temperature. The majority of scrotal enlargements are benign.^[7-10] The aetiology is varied and includes less common conditions like hematocele, pyocele, and chylocele as well as more prevalent ones like hydroceles, spermatoceles, and epididymal cysts. Cystic scrotal swellings are frequently painless and can grow to enormous sizes without the individual feeling

particularly uncomfortable.^[11,12] The mortality from this condition is negligible. The scrotum is vulnerable to stress because of its hanging position and movement due to hematocele.^[13-17] Therefore, even if the mortality associated with this scenario is negligible, morbidity may be severe. The aetiology of the cystic causes of scrotal enlargement is varied; it includes less common causes such haematocoele, pyocoele, and chylocoele, as well as hydrocoele, spermatocele, and epididymal cysts. These swells are typically innocuous.^[18-21] Cystic swellings have a wide range of etiopathologies and can affect people of any age. The vast range of the condition necessitates the importance of determining the most common cause and their age-based distribution in order to better plan for a definite and specific management of the form.^[22] In order to restore the anatomy and physiology to the highest possible level, the current research aims to examine the various disorders of the scrotum and its contents that manifest as scrotal enlargement and to emphasise the best way to treat them.^[23-28] It is necessary to research the best method of care for each form of scrotal cystic swelling that may be treated in our rural hospital setup for meticulous cystic swellings because they can be treated in a variety of ways.^[29-33]

MATERIALS & METHODS

A total of 100 cases were chosen for the current hospital-based observational study from the patients who were admitted to the various surgical units at the Nizams Institute of Medical Sciences in Hyderabad, Telangana, India, over a period of two years between June 2020 and May 2022.

Inclusion criteria

In this study, patients with cystic swellings of the testis, its coverings, the epididymis, the spermatic cord, and the scrotal skin, ranging in age from 14 to 70, are included.

Exclusion criteria

This study excludes testicular torsion, inguinoscrotal swelling, acute testicular swelling, and congenital hydrocele and solid tumors,

Method of collection of data

100 patients between the ages of 14 and 70 were given written informed consent before being enrolled in this clinical investigation, which was approved by the Institutional Ethical Committee of the Medical College and Hospital. A pre-formed proforma consisting of the following was used to study patients who were admitted with symptoms of swelling, pain, or discomfort in the scrotal region.^[34-38]

Clinical examination

Local investigation

Testis, epididymis, and spermatic cords are checked, along with local lymph nodes, and findings are noted. The skin and swelling itself, with the two cardinal indications fluctuation and translucency, are also evaluated.

Systemic examination

Both the patient's respiratory system and abdomen were examined in depth. Blood tests and other routine laboratory tests were performed to rule out eosinophilia, microfilaria, lymphocytosis, and an elevated E.S.R.

Scrotal ultrasound was done in all cases

It was carried out to check for modifications to the testis and other scrotal tissues. An anesthesiologist assessed the patient's readiness for anaesthesia and for operation. Under appropriate anaesthesia administered by an anesthesiologist, the surgical procedure was adjusted by the attending surgeon based on the patient's illness. Intraoperative observations are noted, such as the fluid's colour and any testicular alterations or epididymal problems. In the majority of cases, a corrugated rubber drain was installed and removed after 48 to 72 hours, depending on the clinical circumstances. In every case, postoperative scrotal support

was provided. In pertinent cases, a histopathological examination of the specimen and a biochemical analysis of the fluid were conducted. The postoperative course and treatment of problems such as infection, hematoma, scrotal edema, and fever were noted. All patients were informed about the disease at discharge and asked to see the outpatient department for follow-up care. Finally, a 1-4 month follow-up was conducted.

Statistic evaluation

The collected data was organized and input into the spreadsheet application Microsoft Excel 2007, which was afterwards exported to the data editor page of the Statistical Package for Social Sciences (SPSS). The level of significance and confidence level for each test were set at 5% and 95%, respectively.

RESULTS

This clinical study looked at the distribution of different scrotal cystic edema types, the pattern of clinical presentation, and various treatment options.

Table 1: Participants distribution as per age

Sr. No.	Age (In Years)	Percentage	Participants	P value
1.	14 -20	5	5	0.01
2.	21-30	14	14	
3.	31-40	19	19	
4.	41-50	25	25	
5.	51-60	30	30	

Table 2: Various swelling causes to scrotal swelling

Sr. No.	Number of cases	Disease
1.	75	Primary Hydrocele
2.	17	Epididymal Cyst
3.	05	Sebaceous cyst
4.	03	Spermatocoele
5.	100	Total

Table 3: Various treatment approaches

Sr. No.	Number of cases	Disease
1.	9	Lords Plication
2.	05	Partial excision
3.	59	Joboulays procedure
4.	27	Excision
5.	100	Total

Over the course of two years, 100 patients in total were examined in the medical college and hospital. The oldest patient was 68 years old, and the youngest was 14 years old. [Table 1] The age groups 51 to 60 years saw the most cases (30), followed by 41 to 50 years with 26 cases. Four cases were the bare minimum in the 14 –20 age range. The statistical difference between the age groups was significant ($p < 0.05$). In 86 cases, the primary complaint of the patient was swelling; in 14 cases, the patient also complained of pain and scrotal edema. The right side of the scrotum, which accounted for 60 of the cases, had a higher incidence of cystic swellings than the left. On the left side, a total of 30 instances were observed. While 10 of the total instances involved bilateral swelling, one of those cases involved multiple sebaceous cysts. The most frequent cause of cystic scrotal swellings in this investigation was

primary vaginal hydrocele. Epididymis cysts were the second most frequent cause, accounting for 16 instances. Six cases involved spermatocele, and two involved multiple sebaceous cysts. Primary vaginal hydrocele cases ranged in age from 11 to 20 years old to 61 to 70 years old. The age groups of 41-50 and 51-60 years saw the highest number of primary vaginal hydrocele cases, with 11 instances each, followed by the age group of 61-70 years with 6 cases. Only one primary vaginal hydrocele case per age group of 11 to 20 years was reported. With the exception of the age categories of 61-70 and 21-30, epididymal cysts were seen in all age groups. Epididymal cysts were most frequently observed in people between the ages of 31 and 40, when 6 cases were discovered, followed by 4 cases in each of the age groups of 41 to 50 and 51 to 60. In the age ranges of 11 to 20 years, epididymal cyst cases were least common. Four occurrences of spermatocele were reported in the 51–60 age range. In the age range of 31 to 40 years, there were 2 cases reported. Sebaceous cysts in multiples were observed in people aged 61 to 70. The statistical difference between the age groups was significant ($p < 0.05$). Lord's plication was used to treat primary vaginal hydrocele in 8 cases, eversion of the sac in 60 cases, and partial excision and eversion of the sac in 6 cases. Sebaceous cysts, spermatocele, and epididymal cysts were removed in 26 cases, including 2 cases of numerous sebaceous cysts that required skin excision and primary suturing. 96 instances had normal testicles post-op; 4 cases had testicles that had flattened due to primary vaginal hydrocele. Testicle inflammation was not observed. 32 patients were discharged between 6 and 10 days, while 2 patients were discharged between 11 and 15 days. A total of 66 patients were discharged between 0 and 5 days, with excision for sebaceous cysts being the earliest. Patients who received Lord's surgery typically left the hospital sooner than those who underwent eversion of the sac for primary vaginal hydrocele.

DISCUSSION

All age groups have the scrotum area enlargement. A total of 100 patients participated in the research for the current study. Following the age group of 41–50 years, the age group of 51–60 years saw the greatest number of patients. In the examples mentioned above, there are no known predisposing factors. Scrotal edoema was the main complaint of the majority of patients. A few patients reported scrotal discomfort and edoema.

These complaints resemble the one made by Subith et al in their paper, where swelling was the only complaint made. The majority of patients were observed on the right side as opposed to the left when comparing the sides for the swelling. On bilateral sides, just 10 instances were seen. The findings were consistent with research conducted by Subith et al. in 2014 and Agbakwuru et al. in 2008. Scrotal ultrasonography confirmed the conditions. The enlargements had an oval or globular form. The most frequent reason for the scrotal enlargements was thought to be primary hydrocele. Epididymal cysts were discovered to be the second source of edoema. Spermatocele (6%), scrotal sebaceous cysts were the other reasons identified in the study. Agbakwuru et al. reported a similar pattern of cystic scrotal edoema in their analysis of 50 cases, where 94% and 55%, respectively, were primary vaginal hydrocele. These results concur with those of numerous other studies.

All of the scrotum's cystic enlargements were surgically removed. Only four cases received general anaesthesia throughout the surgical procedure, with the largest number of patients receiving spinal anaesthesia. Only younger patients received general anaesthesia. Only two cases involved local anaesthesia. Jaboulay's technique, Lord's plication, and Partial excision and eversion of the sac were the three treatments used to treat primary vaginal hydroceles. In 60% of cases of primary vaginal hydrocele with a big, tense swelling and thin sac, Jaboulay's eversion of sac was performed. Spermatoceles and epididymal cysts were removed surgically. Compared to partial excision and eversion of sac and Jaboulay's treatment, Lord's plication had no postoperative problems for primary vaginal hydroceles. The excisional

approach may result in increased tissue oedema, haematoma in 2 cases, and no infection because dissection of the hydrocele sac increases morbidity and oedema is generated by excessive handling and broad dissection of the tissue. The primary cause of the post-operative haemorrhage is the generalised oozing that results from separating the hydrocele sac from the surrounding tissues.^[39-41] Because the cleavage between the sac and the surrounding tissue is not opened during Lord's plication, generalised leaking, the development of haematomas, and infection are all prevented. This study demonstrates the efficacy, safety, and affordability of Lord's plication, with only two primary vaginal hydrocele cases experiencing complications. Out of 45 cases of unilateral primary vaginal hydrocele in the current investigation, only 1 had testicular flattening, which was a relatively recent occurrence. Testicular atrophy was not present. Some individuals with scrotal edoema and infection were monitored for 11 to 15 days; this observation was comparable with.

CONCLUSION

A cystic enlargement of the scrotum is a common issue that requires surgical attention. The most prevalent form of cystic swelling of the scrotum was known as primary vaginal hydrocoele. The majority of the cystic swellings were successfully addressed by surgical procedures.

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