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Research Article

CYSTIC SWELLINGS OF SCROTUM: MANAGEMENT

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ABSTRACT

The cystic swellings of scrotum are one among the commonest clinical entities faced by a surgeon in day to day practice and a cause of concern to the patient more with his fertility. Presenting with varied etiology they can represent a wide range of medical issues. Gold standard for the management of such cystic swellings of scrotum continues to be surgical extirpation of the lesion. **Objective:** To identify the cause, mode of presentation, various modalities of treatment and outcome of these with their complications. **Method:** A total of 170 cases of cystic swellings of scrotum fulfilling the methodology criteria were subjected to the preformatted study. Diagnosis was mostly by clinical examination and supported by ultrasonography. All cases were treated surgically with the appropriate surgical procedure. **Results:** Maximum patients were in the age group of 31-50 years and presented with scrotal swelling (59%) and more commonly affecting the right side. The commonest cause for cystic swelling of the scrotum was primary vaginal hydrocele (55%). Surgical procedure using Lords Plication was found to be simple, effective and associated with minimum post operative complications; the other conventional techniques like Partial/sub-total excision of sac, eversion of sac were associated with more complications like haematoma, scrotal edema and infection. Majority of patients were discharged on 7th Post-operative day. **Conclusion:** The present study, primary vaginal hydrocele was the commonest cystic swelling of scrotum and treated surgically showed good results. Lord's procedure was associated with the less post-operative complications, minimal tissue handling and good haemostatic control.

Keywords: Cystic swellings of scrotum; Lord's plication.

INTRODUCTION

Cystic swellings are the most common surgical problem of the scrotum. They affect the physical well being and resulting in mental agony for him. They can be the reason for sexual and marital life of patients. They can also increase the economic and psychological burden of patients and their families.¹ The spectrum of cystic scrotal swellings consists of hydrocele (most common), epididymal cysts, spermatocele, haematocoele, pyocoele, chylocoele, parasitic cyst and sebaceous cysts. Indications for

treatment include pain, discomfort, cosmetic appearance of the scrotum and the patient's wish.² Surgical treatment of hydrocele include basic techniques³ like Lords plication⁴, Jaboulay's eversion of the sac⁵, Winkelmann's partial excision and eversion of the sac and radical excision of the sac. Treatment of epididymal cyst and spermatocele consists of the excision of the cysts.^{6,7} Since, Surgeries on cystic scrotal swellings are one of the most commonly performed procedures in our

hospital, a prospective study of 170 cases of cystic swellings of the scrotum was undertaken to find out the ideal treatment modality for a given type of cystic scrotal swelling.

MATERIALS & METHODS

This study was undertaken on 170 cases with cystic swelling of scrotum, admitted to the surgical wards from April 2009 to March 2011 in the departments Surgery and Urology, Mamata General Hospital, Khammam. This study was carried with the prior approval from the Institutional Ethics Committee.

Inclusion criteria: The cases with cystic swellings arising from the testis and its coverings, epididymis and spermatic cord are included in this study.

Exclusion criteria: The exclusion criteria included the inguinoscrotal swellings and swellings from scrotal skin. Detail history, clinical examination and routine laboratory investigations including Ultrasound of scrotum was recorded. Surgical treatment is performed according to the merits of the case as decided by attending surgeon. The details of operative findings and management of post operative complications are recorded. Strict follow-up schedules are maintained.

All 170 cases were surgically treated after taking informed-written consent and explaining about the study and disease. Corrugated drain was used in most of the cases and removed after 48 hours. Post-operative scrotal support was given to most of the cases. While discharging patients were told regarding the importance of follow-up.

RESULTS

The present study includes 170 cases, where the youngest patient was a 4 years child and the oldest being 76 years. More than 68 (40%) cases were seen in the age group of 31 – 40 years. Out of 170 cases with cystic swellings of the scrotum 54 (32%) were manual laborers, followed by farmers and businessmen. Most of them were from poor social-economic class. Scrotal swelling was the presenting complaint in 100 cases (59%) and associated pain in 48 cases (28%). The duration of the swelling was 1-2 years in 78 cases (46%), followed by 6-12 months in 39 cases (29%) and 29 (17%) cases (29) were with duration of 2 years and above. Majority of the patients presented within 2 years of onset of symptoms. Swelling in right scrotum was seen in 90

cases (53%), compared to 44 (26%) patients with the left scrotal swelling and bilateral scrotal swellings in 36 (21%) cases. Primary vaginal hydrocele was seen in 39 patients (55%), followed by secondary hydrocele in 27 cases (16%), pyocele (11%), congenital hydrocele (8%) and epididymal cyst/encysted hydrocele (10%) of the cases.

Cystic scrotal swellings were seen in the age group of 30- 40 years. Primary vaginal hydrocele was seen in the age group of 40-60years, secondary hydrocele in 30-50years, Pyocele in 50-60 years, congenital hydroceles in 5-15years.

Spinal anesthesia was used in 132 (78%) cases and general anesthesia in younger age group of patients. Local anesthesia was used in 10% of the cases who were considered to be high-risk patients for spinal or general anesthesia.

Jabouley's eversion of sac was done for primary vaginal hydrocele in 62 cases (36%) with a large and tense swelling with thin sac. Partial/subtotal excision and eversion of sac was done for bigger hydroceles with thick sac and for secondary hydroceles in 30 cases (18%). Lords plication was done in 21 cases (12%), which had small swelling and thin sac. Epididymal cyst was excised in 17cases (10%). Herniotomy was done in 14cases (8%). Incision and drainage was the treatment in 18 patients (10%). High Orchidectomy in 5 cases (3%). In 3 cases (2%) evacuation of clot was done.

Post operatively pain was noticed in almost all cases; In Lords Plication, it was comparatively less. Scrotal edema was observed in 32 (19%) cases. Scrotal edema was least following Lord's Plication when compared to other conventional techniques. Haematoma was observed in 15% of the cases and it was seen following Jabouley's and subtotal excision of sac, whereas no haematoma was observed in Lord's plication and herniotomies. Most of haematomas were managed conservatively with antibiotics, analgesics and scrotal support. Two patients required re exploration. Wound infection was observed in 10% of the cases.

Per-operatively, testis was normal in 145 cases and 19 cases showed flattening of testis in hydrocele. Testis was enlarged in 3 cases of secondary hydrocele secondary to testicular malignancy. Inflamed testis was seen in 3 cases of pyocele. Per-operatively, normal epididymis was observed in 153 cases (90%); 17 cases (10%) showed thickened epididymis (10

cases of secondary hydrocele and 7 cases of epididymal cysts). Eighty patients were discharged between 0-5 days, 81 patients were discharged between 6-10 days. Those patients who developed hematoma or infection in the post operative period had a longer post-operative stay 7days and beyond. Patients who underwent Lord's procedure had a record of early discharge of maximum 6 days than compared to other procedure for primary vaginal hydrocele.

DISCUSSION

This study comprised of 170 cases of cystic swelling of scrotum admitted and operated at Mamata General Hospital, Khammam over the span of 2 years. The study was compared with available literature and other studies. Cystic swellings of the scrotum presented in various age groups. Most of the patients were in the age group of 31-40 years, followed by 41-50 years age group, together 78 (46%) cases out of the total 170 cases. This age distribution of scrotal swellings is similar to the reported mean age of presentation 36 years by Srinath et al in their study⁸. Scrotal swelling alone was the main presenting complaint in 100 (59%) cases and the weight of the scrotum causing dragging sensation. These complaints are similar to the report of Srinath et al⁸. However, many other had scrotal swelling with pain or pain alone as a complaint, few presented with fever with swellings.

On clinical examination most of the swellings were oval in shape or globular. Cystic swellings of scrotum were more common on the right side compared to left side and comparable to study reports of Agbakwuru et al (2008)⁹. Bilateral swellings were found in 21% of the cases. In most cases scrotal rugosity was lost in hydroceles. Swellings were cystic in consistency and fluctuant. Transillumination was negative in all cases of haematocele, secondary hydrocele and Pyocele may be due to the opaque nature of their contents and long standing hydrocele and fibrous walls. The diagnosis was confirmed by scrotal ultrasonography after scrotal examination.

This study showed primary vaginal hydrocele as the most frequent cause for cystic swelling of the scrotum in 94cases (55%). The other causes were secondary hydrocele in 27 cases (16%), Pyocele in 19 (11%), congenital hydrocele in 13 (8%), Epididymal cyst in 7 (4%), Encysted hydrocele of cord in 7 (4%) and

Hematocele in 3 (2%). Similar distribution of cystic scrotal swellings was reported by Agbakwuru et al in their study of 50 patients⁹. Three cases of malignant teratoma presenting with hydrocoele were treated by high orchidectomy and were referred to higher centre for further management.

Surgery was employed in all the cases. Spinal Anaesthesia was used in 132 cases (78%), general anaesthesia in 20 cases (12%) and local anaesthesia in 10% patients with 2% xylocaine and Midazolam, as per the merit of the patient. In the treatment of Primary vaginal hydrocele, Lords Plication was found to be simple, effective and associated with least post operative complications. The other conventional techniques like Partial/sub-total excision of sac, Eversion of sac were associated with increased incidence of complications like haematoma, scrotal oedema and infection.

Intra operatively normal testis was observed in 145 cases (85%) and 19 cases showed flattening of testis in Primary vaginal hydrocele (11%). Inflamed testis was seen in 3% of cases. Similar results are seen in the study done by Dandapat et al¹⁰, on 120 cases of big unilateral hydrocele and reported no pressure effect from the hydrocele on the structure of the testis in 70%, flattening of testis in 22% and atrophy of testis in 8% of cases. Srinath and co-workers⁸ also reported no atrophy of testes due to vaginal hydroceles in his study of 25 patients. Congenital hydroceles were managed by performing herniotomy while Epididymal cysts and encysted hydrocele of the cord were treated with excision of cyst. Haematocele were treated by evacuation of clot and eversion of sac. Pyocele was treated by incision and drainage. Pus was sent for culture and sensitivity and treatment was done with specific antibiotics as per sensitivity report. All the patients were given tight scrotal support and appropriate analgesics. Corrugated drain was removed after 48 hours.

The common post operative complications observed were pain, scrotal oedema and haematoma, managed conservatively by analgesics scrotal support and antibiotics. Two patients were re-explored following hematoma development. Scrotal oedema was found in few patients and haematoma post operatively in 15 cases. This was the result of sac separation and dissection. Patients who underwent Lord's plication where no dissection was done showed less post op complications resulting in early discharge from the

hospital. However this procedure was not employed in long standing, large hydrocele with thick sac, where in subtotal excision or eversion was chosen. The post operative results and complications of the present study are comparable to that of the previous series. Patients who underwent Lord's plication in the literature available showed hematoma as post op complication in one case in each report compared to 6 to 14 cases in patients who underwent excision/eversion^{9, 11, 12}. However scrotal edema and wound infection were very uncommon.

Most of patients were discharged between 5-7 days, except who developed scrotal edema or infection was kept for 10 days. The results of the present study are comparable to Usman et al¹³ in his series of 25 cases were kept for 3 days and Efferman et al¹² reported 5 days hospital stay in his report of 29 cases. In another series of 50 cases from Rai et al¹¹ it was 3-8 days stay compared to the present study (170 cases) 5-7 days.

On discharge patients were asked to maintain strict follow up. Follow up period was 2-4 months. In general it was poor due to rural background, illiteracy and ignorance. Cases which were followed regularly showed no recurrence. Minimal tissue handling and good haemostatic control is the key to prevention of post operative complications. Scrotal edema and haematoma were the most common complications in postoperative period. No complications occurred in Lords plication may be due to no sac separation and dissection. Post operative hematoma could be minimized by meticulously over sewing all raw edges of the sac after its excision. Lord's Plication was simple, effective, safe and economical for treatment of small, lax hydroceles.

CONCLUSION

To conclude from the present study, primary vaginal hydrocele was the commonest cystic swelling of scrotum and treated surgically showed good results. Lord's procedure was associated with the less post-operative complications, minimal tissue handling and good haemostatic control.

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