



## Clinical Study & Various Managements of Cystic Swellings in Scrotum at MNR Hospital Sangareddy, Telangana

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### Abstract

**Introduction:** Cystic swellings of the scrotum include a huge variety of conditions within the disease spectrum. Usually cystic swellings of scrotum are benign. It represents common surgical entity in india.

### Objective

1. To study incidence and predisposing factors of cystic swellings of scrotum.
2. To study the different types of clinical presentation of cystic swellings of scrotum.
3. To study the various treatment modalities for a given type of cystic swelling of scrotum.

**Material and Methods:** 200 cases of cystic swellings of scrotum, who were admitted in MNR MEDICAL COLLEGE AND HOSPITAL, SANGAREDDY, TELANGANA, from JULY 2015 to DECEMBER 2017 in various units in our surgical department. Cystic swellings from testis & its coverings, epididymis, spermatic cord and scrotal skin were included in this study. Inguinoscrotal swelling, varicocele, torsion of testis, filarial scrotum were excluded in this study.

**Results and Conclusions:** Cystic swellings of the scrotum constituted 8.06% of the total surgical admissions. Most number of cystic swellings of the scrotum was found in the age group of 25- 43years. The most common presenting symptom was a painless swelling of the scrotum (92%). Primary vaginal hydrocele is the most common cause among cystic swellings of the scrotum (70% of cases). Primary vaginal hydrocele is idiopathic in origin, secondary hydroceles were due to underlying disease of the testis and epididymis (due to tuberculous epididymo-orchitis in one case and underlying testicular tumor in another case), no predisposing factors could be found for the development of epididymal cysts, spermatoceles & encysted hydrocele of the cord. Pyocele was due to infection of hydrocele, haematocele was due to antecedent trauma, sebaceous cysts of the scrotum are due to obstruction of the duct of the sebaceous glands in the hair follicle. For primary vaginal hydroceles, Lord's plication had less postoperative complications as compared to Jaboulay's procedure. The mean duration of post-operative stay was 5.4 days.

### Introduction

Cystic swellings of the scrotum include a large variety of conditions within the disease spectrum. The patient usually presents with the main

complaint of a painless swelling of the scrotum since a few months. Though some people may be having the condition since many years, there is apathy for seeking medical opinion due to

superstitious beliefs & also, these conditions hardly affects the physical well-being of the patient. However these conditions can create a lot of mental pain. Moreover for some patients, it may be a source of embarrassment and creates fears about their capability of reproduction and sexual power.

Therefore the need for alleviation by early diagnosis and treatment, which is very rewarding.

Most of the cystic swellings of scrotum are benign i.e, primary vaginal hydrocele, epididymal cysts and spermatoceles to name a few in the disease spectrum. The cystic swellings can present in all age groups and therefore the need to study the incidence of various types of cystic swellings and the predisposing factors related to each condition.

The wide spectrum of the condition necessitates the importance to find out the most common cause and therefore better understanding for a focused and specialized management of the condition.

Management is done in various methods for each type of cystic swelling of scrotum, hence the necessity to study the ideal modality of management for each type of cystic swelling of scrotum.

### Objectives

The objectives of the study are:

1. To study incidence and predisposing factors of cystic swellings of scrotum.
2. To study the different types of clinical presentation of cystic swellings of scrotum.
3. To study the various treatment modalities for a given type of cystic swelling of scrotum.

### Methodology

#### Source of data

The cases who were admitted in MNR medical college and hospital, Sangareddy, Telangana from July 2015 to December 2018, formed the material for this study. During this period, cases admitted in various surgical units, selected at random were studied in detail. This study is of 200 cases.

### Inclusion criteria

Cystic swellings from testis, and its coverings, epididymis, spermatic cord and from the scrotal skin are included in this study.

### Exclusion criteria

Inguinoscrotal swelling, varicoceles, torsion of testis, filarial scrotum are excluded in this study.

### Methods of collection of data

- 1) Detailed history of the case.
- 2) Clinical examination.
- 3) Routine laboratory investigations.
- 4) Relevant special investigation.
- 5) Detailed pre-operative evaluation of the patient and appropriate preparation for surgery.
- 6) Surgical treatment according to the merit of the case decided by the attending surgeon under suitable anaesthesia.
- 7) Operative findings.
- 8) Post-operative course, complications and their management.
- 9) Follow-up.

After the clinical examination, scrotal ultrasonography was done for almost all cases, except for three cases of multiple sebaceous cysts of the scrotum.

Of the 200 cases, all the 200 cases were treated surgically, after taking informed consent. Specimen was sent for histopathological examination in relevant cases. (For one case of tuberculous epididymo-orchitis and another case of testicular tumor after high orchidectomy).

Corrugated rubber drain was placed in most cases and removed after 72-96 hrs depending on the clinical situation. Postoperative scrotal support was given in all the cases.

At discharge, all the patients were educated about the disease and were requested to come for follow-up at the outpatient department.

### Discussion

Cystic swellings of the scrotum are a common surgical entity. It formed 8.06 % of the total

surgical admissions at MNR medical college and Hospital, Sangareddy, Telangana.

Cystic swellings of the scrotum occur in all age groups. In the present study of 200 cases, maximum number of patients was encountered in the age group of 25-42 years (23%), followed by patients in the age group of 51-60 years (21%). Least number of patients were observed in the age group of 1-10 years (1%).: Presenting complaints

Presenting Complaints	Number of cases	Percentage (%)
Scrotal swelling	184	92
Scrotal swelling + Pain	14	7
Scrotal swelling + Pain + Fever	2	1
Total	200	100

Most of the patients presented with the only complaint of swelling of the scrotum (92%). A few patients complained of scrotal swelling with pain (7%). Only one patient complained of scrotal swelling, pain and fever (1%). Incidence of scrotal swellings on the right side (61%) was lot more common than on the left side (34%). Only 5% of scrotal swellings were bilateral. : Side of the swelling.

Side	Number of cases	Percentage (%)
Right	122	61
Left	68	34
Bilateral	10	5
Total	200	100

All the conditions were diagnosed clinically and then it was confirmed by scrotal ultrasonography for 197 cases. (Except for three cases of multiple sebaceous cysts of the scrotum). The swellings were either ovoid or globular in shape. In most cases of primary vaginal hydrocele, median raphe was deviated to the opposite side. There was loss of scrotal rugosity in many cases. Majority of the cases were cystic, fluctuant and translucent. However transillumination was negative in two cases of secondary hydrocele where the fluid content was less and the hydrocele was lax. Transillumination was also negative in cases of haematocele, pyocele and multiple sebaceous

cysts of the scrotum, because of the contents which were dense/ opaque. Variety of conditions among patients with cystic swellings of scrotum

Disease	Number of Cases	Percentage (%)
Primary vaginal hydrocele	140	70
Epididymal cyst	40	20
others	20	10
Total	200	100

The commonest cause among the cystic swellings of the scrotum was primary vaginal hydrocele (70%). Followed by epididymal cysts (20%). The other causes encountered in the study were spermatocele, secondary hydrocele, encysted hydrocele of the cord, haematocele, pyocele and multiple sebaceous cysts of the scrotum.

Maximum number of primary vaginal hydroceles were seen in the age group of 25 -50 years. Maximum number of epididymal cysts were seen in the age group of 25 -43 and 51-60 years (5 cases each). There was an associated inguinal hernia in a case of epididymal cyst, it was of indirect type (bubonocoele) and was managed by hernioplasty during the procedure for the treatment of the epididymal cyst. Spermatoceles were encountered in age groups of 11-20, 31-40 and 41-50 years. While sebaceous cysts of the scrotum were seen in the age groups of 25 -43 years. Encysted hydrocele of the cord was encountered in the age group of 1-10 years (1 case) and in the age group of 11-20 years (3 cases).

Primary vaginal hydroceles are idiopathic in origin. There are no predisposing factors for the development of epididymal cysts, spermatoceles and encysted hydrocele of the cord. Secondary hydroceles are due to the disease of the testis and epididymis – of the two cases of secondary hydrocele, one case was secondary to tuberculous epididymo-orchitis and the other case was due to an underlying testicular tumor. A case of haematocele had an antecedent history of recent trauma. Pyocele is due to infection of hydrocele. Sebaceous cysts of the scrotum is due to

obstruction of the duct of the sebaceous glands in the hair follicle, which was evident by the sebum contained in all the cysts, found after excision.

Surgical treatment was employed for all the cases of cystic swellings of the scrotum. Spinal anaesthesia was used most commonly (94%), general anaesthesia (3%) was used only in the age group of 1-10 years and 11-20 years. Local anaesthesia was employed only in 3 cases (all the 3 patients of multiple sebaceous cysts of the scrotum).

Three procedures were employed in the treatment of primary vaginal hydroceles – Jaboulay’s procedure, Lord’s plication and partial/Subtotal excision. Excision was done for epididymal cysts, encysted hydrocele of the cord and spermatoceles. A case of haematocele was treated by evacuation of the clot and eversion of the sac. A case of pyocele was treated by incision and drainage, and pus was sent for culture and sensitivity. Initially

the patient was put on empirical antibiotic therapy and later on, was given specific antibiotic therapy based on the culture and sensitivity report. A case of secondary hydrocele due to tuberculous epididymo-orchitis was treated by subtotal excision of the sac and the specimen was sent for histopathological examination. On confirmation of the diagnosis by histopathological examination, patient was given antitubercular therapy. Another patient of secondary hydrocele due to an underlying testicular tumor, was treated by high orchidectomy. Patient had undergone staging by ultrasonography of scrotum and abdomen, CT scan of abdomen and chest X- ray. Histopathological examination of the specimen following high orchidectomy showed it to be a seminoma confined to the testis. Patient was referred MNJ cancer hospital, Lakdika pool ,Hyderabad.

Author	Year	Journal	Lord’s plication		Excision / Jaboulay’s	
			No. of cases	Haematoma	No. of cases	Haematoma
Effron et al., <sup>69</sup>	1967	JSGO	29	1	30	9(30%)
Dahl et al., <sup>70</sup>	1972	Arch Surg	25	1	23	6(26.08%)
Reddy et al., <sup>71</sup>	1972	IJS	400	Negligible	-	-
Rai et al., <sup>72</sup>	1978	IJS	50	-	20	15(75%)
Present study	2015 -2017	-	14	-	106	4(7.4%)

Author	Lord’s plication			Excision/ Jaboulay’s procedure		
	No. of cases	Haematoma	Infection	No. of cases	Haematoma	Infection
Agarwal Series <sup>73</sup> (1978)	50	-	-	50	14(28%)	8(16%)
Present Study	14	-	-	106	4(7.4.77)	2(3.6%)

For primary vaginal hydroceles, Lord’s plication had minimal postoperative complications (only pain) as compared to Jaboulay’s procedure (which was also associated with other complications like

scrotal oedema, haematoma and wound infection apart from pain).

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 the procedure of choice for big sized hydroceles.

The patients were given tight scrotal support, analgesics and antibiotics, post-operatively. Corrugated rubber drain when placed was removed after 72-96 hours. In all the cases, scrotal skin was sutured using non absorbable sutures.

The most common post-operative complication was pain and was adequately managed by scrotal support and analgesics. Minimal tissue handling

and meticulous hemostasis during the procedure is of utmost importance in order to prevent post-operative complications. Post-operative scrotal support helps in relieving pain, minimizes scrotal oedema and prevents development of haematoma. Discharge and follow-up: The mean duration of post-operative stay was 5.4 days. Patients while getting discharged were educated about the disease and the study. Earliest patient was discharged after 2 days, after the patient underwent excision for encysted hydrocele of the cord. Patient who was discharged last was discharged after 16 days following Jaboulay's procedure for primary vaginal hydrocele due to post-operative complications of pain, scrotal oedema and haematoma.

Author	Year	No. of cases	Postoperative stay
Effron et al.,	1967	29	5
Reddy et al.,	1972	400	5-6
Present study	2015-2017 (considering only primary vaginal hydroceles)	140	6.08

The duration of post-operative stay in this study following various procedures for primary vaginal hydroceles is comparable with other studies.

Patients were requested to come to outpatient department on frequent basis for follow-up. Mean follow up period was 2.5 months. Most patients came for follow-up. Follow up period extended up to the month of January 2018. 6 patients did not come for follow-up. There was no recurrence noted during the follow-up period.

### Summary

Cystic swellings of the scrotum represent a common surgical entity. 200 cases of cystic swellings of scrotum, who were admitted in various surgical units of

MNR medical college and Hospital, Sangareddy, Telangana were selected at random and formed the material for this study. The study period was from July 2015 to December 2017. Cystic swellings of the scrotum formed 8.06 % of the total surgical admissions, within the study period. Maximum number of cases was encountered in

the age group of 25- 43 years. The main and the only complaint most of the times was swelling of the scrotum.

Various causes found in the study were – primary vaginal hydrocele, epididymal cyst, encysted hydrocele of the cord, spermatocele, haematocele, pyocele, secondary hydrocele and sebaceous cysts of the scrotum.

Primary vaginal hydrocele is idiopathic in origin, secondary hydroceles were due to underlying disease of the testis and epididymis (due to tuberculous epididymo- orchitis in one case and underlying testicular tumor in another case), no predisposing factors could be found for the development of epididymal cysts, spermatoceles and encysted hydrocele of the cord. Pyocele was due to infection of hydrocele, in case of haematocele, patient gave history of recent trauma, sebaceous cysts of the scrotum is due to obstruction of the duct of the sebaceous glands in the hair follicle, which was evident by the sebum contained in all the cysts, found after excision.



After scrotal examination, all patients (except three cases of sebaceous cysts of scrotum) were subjected to scrotal ultrasonography.

Routine investigations were done for all the patients, specific investigations were done in relevant clinical scenario.

All the patients underwent surgical treatment and most commonly under spinal anaesthesia.

For primary vaginal hydrocele, three techniques were employed namely- Jaboulay's procedure, Lord's plication and subtotal excision of the sac. Lord's plication had the least post-operative complications. There were four cases of testicular flattening preoperatively. Excision was done for epididymal cysts, spermatoceles, encysted hydrocele of the cord and sebaceous cysts of the scrotum. Sebaceous cysts of the scrotum, were multiple in all the cases. Therefore, multiple excision of the sebaceous cysts with suturing of the wounds was performed. Haematocele was treated by evacuation of the clot and eversion of the sac. Pyocele was treated by incision and drainage. A case of secondary hydrocele due to tuberculous epididymo-orchitis was treated by subtotal excision and the diagnosis was confirmed by histopathological examination. Another case of secondary hydrocele due to underlying testicular tumor was treated by high orchidectomy, the diagnosis was confirmed by histopathological examination and the patient was referred to MNJ cancer hospital, Hyderabad.

All the cases were given tight scrotal support, appropriate antibiotics and analgesics. Corrugated rubber drain when placed, was removed after 72-96 hours.

Patients were followed up for a period of 2-4 months. Follow-up period extended up to January 2018. A total of 6 patients did not come for follow-up. There was no recurrence of the conditions in the follow-up period.

### Conclusion

1) Cystic swellings of the scrotum are a common surgical entity in day to day

practise (constituted 8.06% of the total surgical admissions).

- 2) Maximum cases of cystic swellings of the scrotum was found in the age group of 25 - 43years.
- 3) Variety of clinical conditions forms the spectrum of cystic swellings of the scrotum.
- 4) The most common presenting symptom is an painless swelling of the scrotum (92%).
- 5) Primary vaginal hydrocele is the most common cause among cystic swellings of the scrotum. It formed 70% of all the cases.
- 6) Most of the cystic swellings of the scrotum can be easily diagnosed by clinical examination, ultrasonography of scrotum.
- 7) Primary vaginal hydroceles are idiopathic in origin. Secondary hydroceles are due to underlying disease of the testis and epididymis.
- 8) Large hydroceles for a long duration can result in flattening and atrophy of the testis due to pressure effects of the hydrocele.
- 9) Surgery remains gold standard treatment modality in the treatment of cystic swellings of the scrotum.
- 10) Lord's plication is safe, economical and had minimal postoperative complications in the treatment of primary vaginal hydroceles.
- 11) Careful dissection and meticulous handling of the tissues is of utmost importance to avoid post-operative complications.
- 12) Scrotal support helps in reducing pain, scrotal oedema, reduces incidence of haematoma.
- 13) Results were found to be better when scrotal skin is closed with monofilament non absorbable suture material.
- 14) The mean duration of post-operative hospital stay was 5.4 days.

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