



COMPLICATIONS OF PRIMARY HYDROCELE OF THE VAGINAL CANAL: A PROSPECTIVE OBSERVATIONAL STUDY.

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ABSTRACT

Hydrocele is an abnormal accumulation of serous fluid in the potential space between the visceral and parietal layers of the tunica vaginalis, as has been shown by several studies conducted over a long period of time. Therefore, it is the most common cause of scrotal edema. Thus, it is imperative that it be treated. According to studies, the most common complications of scrotal surgery for hydrocele are wound infection, hemorrhage, and damage to the epididymis and testis. Conservative treatment methods are effective for most of these complications. Hydrocele is a common surgical issue that has been linked to poor patient physical health, according to studies. As a result, we have chosen to analyze and assess the complications related to PVH in adult patients in this study. Thus, we conclude from our study that scrotal edema was the commonest complication among Jabouley's Procedure compared to Lord's Procedure, and hemorrhage was observed to be more common for Jabouley's Procedure when compared to Lord's Procedure.

Keywords: Hydrocele, Lord's Procedure, Jabouley's Procedure, Scrotal Edema, PVH , Hemorrhage, Complications.

INTRODUCTION

Many studies have proved long time back that hydrocele is an abnormal collection of serous fluid in the potential space between the visceral & parietal layers of the tunica vaginalis.¹ Furthermore, it is the most common scrotal swelling.² It mainly includes in middle and old ages, but may also occur in young & childhood.³ Studies have shown that 1% of adult male may develop it.² It is commonly correlated with hot climate.³ It is commonly present with a scrotal enlargement which is cystic & non tender in nature. Studies have shown that ,if the hydrocele is lax, the testis can be palpable. Furthermore, it is painless so patients can bear it for a very long period of time until it gets complicated or attains huge size. Studies also proved their correlation with inguinal hernias.⁴ Hence, its treatment is a must. In that context , inguinal approach is also feasible option in surgical medication of adults with hydrocele. Further, studies have shown that most common complications following scrotal surgery for

hydrocele were wound infection, haematoma & injury to the epididymis & testis. Most of these complications can be medicated by conservative management.^{5,6} In addition, studies have concluded that, hydrocele is a common surgical problem which affects physical health of patient. Henceforth, in our study we have decided to evaluate & determine complication associated with primary vaginal hydrocele (PVH) in adult patients.

AIM

The goal of our study was to evaluate and determine complications and associated management for PVH adult patients.

INCLUSION CRITERIA

1. In our study , all those patients reported with PVH were included .
2. Patients who were operated for PVH at KIMS , Karad we included.
3. Both male & female genders were included.

EXCLUSION CRITERIA

1. Patients with secondary causes of hydrocele.
2. Patient with congenital hydrocele.
3. Patient with bleeding disorder.

MATERIALS & METHOD

TYPE OF STUDY - Our study was an prospective observational hospital based type of study.

SITE OF STUDY – We have conducted our study at Department of Surgery, KIMS, Karad.

SOURCE OF DATA- Our study was conducted on total of 65 patients who were diagnosed with PVH & underwent surgery for the same.

STUDY DURATION- We have started our study from August ,2018 & ended to November,2020.

SAMPLE SIZE- We included total of 65 PVH patients.

METHOD OF COLLOECTION OF DATA

After getting approved by ICA for our study we have asked for informed consent from all the opatients included in the study. After which, demographic data , HOPI, duration & mode of onset, rate of progression of disease were noted for all the patients included in the study. Furthermore, patients were asked for complete physical examination & appropriate related investigations that were as follows:-

1. <200ml- Small size hydrocele (Lord's procedure).
2. 200-400ml- Moderate size hydrocele (Jabouley's procedure).

In addition, patients were then monitored for post operative day, to time of discharge & were asked to come for periodic check up at weekly interval for a initial 1 month .Patients were aslso asked to report the hospital in case of any complications in subsequent period.

Patient history, general and systemic examination findings, as well as laboratory investigation were recorded with the help of semi-structured, pre-validated & standard case record proforma.

INVESTIGATION

Complications were mainly diagnosed clinically & by investigation when there is necessity to rule out secondary causes of hydrocele or clinically misguiding scrotal swelling in post op patient. Investigations include CBC ,culture and sensitivity & ultrasonography.

STASTICAL ANALYSIS

The collected data was entered with the help of MS excel software. The data was represented in the form of tables and charts for frequency analysis. SPSS software version 22 was used for statistical analysis.

RESULT

AGE

AGE DISTRIBUTION	NUMBER OF SUBJECTS	PERCENTAGE
Less than 25	5	7.69
26 to 35	14	21.54
36 to 45	19	29.23
46 to 55	14	21.54
56 to 65	8	12.31
More than 66	5	7.69
Total	65	100.00

TABLE 1:AGE DISTRIBUTION.

In our study we have found that ,majority of the patients were belonged to the age group of 36-45 years upto 29.23% , followed by 26 to 35 years & 45 to 55 years upto 21.54% each. Hence, the mean age of patient was 44.24 ± 13.71 years.

DURATION OF SWELLING

DURATION OF SWELLING	NUMBER OF SUBJECTS	PERCENTAGE
Less than 6 months	14	21.54
7 to 12 months	17	26.15
1-2 years	11	16.92
2-5 years	9	13.85
6 to 10 years	9	13.85
More than 10 years	5	7.69
Total	65	100.00

TABLE 2: DURATION OF SWELLING.

In our study we have found that , majority of the patients showed swelling till 7 to 12 months upto 26.15% , followed by less than 6 months upto 21.54%, then 1-2 years upto 16.92%

.Thus, the mean duration of swelling for patients was 39.92 ± 34.98 months, with median duration of 14.5 months.

LATERALITY

SIDE	NUMBER OF SUBJECTS	PERCENTAGE
Right	28	43.08
Left	25	38.46
Bilateral	12	18.46
Total	65	100.00

TABLE 3: LATERALITY.

In our study we have found that, majority of the patients were right sided which involved upto 43.08%, followed by left side upto 38.46%.Thus , bilateral involvement was seen in 18.46% of patients.

CLINICAL PRESENTATION

CLINICAL PRESENTATION	NUMBER OF SUBJECTS	PERCENTAGE
Scrotal swelling	65	100.00
Dragging pain	25	38.46
Mechanical discomfort	13	20.00

TABLE 4: CLINICAL PRESENTATION.

In our study we have found that , scrotal swelling was the commonest complaint among all the patients upto 100%, followed by dragging pain upto 38.46% patients & discomfort upto 20% patients.

PROCEDURE PREFORMED

PROCEDURE	NUMBER OF SUBJECTS	PERCENTAGE
Lords Plication	31	47.69
Jaboulay's Procedure	34	52.31
Total	65	100.00

TABLE 5 : PROCEDURE PERFORMED.

In our study we have found that, 52.31% patients were operated with Jaboulay's Procedure, whereas 47.69% patients were operated with Lords Plication.

SIZE OF HYDROCOELE

SIZE OF HYDROCOELE	NUMBER OF SUBJECTS	PERCENTAGE
Less than 200 ml	31	47.69
More than 200 ml	34	52.31
Total	65	100.00

TABLE 6 : SIZE OF HYDROCOELE.

In our study we have found that , 52.31% patients showed the size more than 200 ml while 47.69% patients showed size of less than 47.69 ml.

COMPLICATION

COMPLICATIONS	LORD'S PLICATION		JABOULEY'S PROCEDURE	
	Number of subjects	%	Number of subjects	%
Haematoma	2	3.13	5	7.81
Scrotal oedema (SO)	3	4.69	6	9.38
Wound infection(WI)	0	0.00	2	3.13
Disruption of wound(DW)	0	0.00	1	1.56
Recurrence	0	0.00	0	0.00
Drain placed(DP)	5	16.67	28	82.35

TABLE 7 : COMPLICATION.

In our study we have found that , SO among 4.69% patients in Lords plications & 9.38% in Jabouleys procedure. Thus, we found that haematoma among 3.13% patients underwent Lord’s plication & 7.81% patients underwent Jabouley's Procedure.

DISCUSSION

The most effective treatment for hydrocele is surgical excision. Lord's plication & Jaboulay's surgery are the most common operative procedures . The operative procedures for hydrocele, however, have reported a significant morbidity rate. Hemorrhage, infection, SO, torsion of the testis, epididymitis, and testicular atrophy are some of the reported complications of these procedures.

AGE

In our study we have found that , majority of the patients include to the age group of 36-45 years upto 29.23%, followed by the 26 to 35 years & 45 to 55 years upto 21.54% each. Thus, the mean age of patients was 44.24 ± 13.71 years. A similar study done by Syed Asad Ali et al,⁶⁴ concluded that the youngest patient was 11 years of the age whereas the oldest patient was 75 years of the age. Further, maximum number of patients were seen in 20 - 29 years age

group followed by 30 - 39 year age group while the minimum no of patients were seen in the 70 – 79 years age group.⁷

LATERALITY

Side	Syed Asad et al ⁷	Present study
Right	55	43.08
Left	26.67	38.46
Bilateral	18.33	18.46
Total	100	100.00

TABLE 8: COMPARISON OF 2 DIFFERENT STUDIES.

CLINICAL PRESENTATION

In our study we have found that , scrotal swelling was the commonest complaint among all the patients upto 100%, followed by dragging pain upto 38.46% patients & discomfort among 20% patients. Similar study was done wherein , the reserachers compared the Lord's operation with traditional surgical procedures with respect to the percentage of patients reporting postoperative pain 4.3 versus 15.8% .⁸

PROCEDURE PREFORMED

Procedure	Syed Asad et al ⁶⁴	Present study
Lords Plication	61.01%	47.69%
Jaboulay's Procedure	18.64%	52.31%
Total	79.65%	100.00%

TABLE 9 : COMPARITIVE STUDIES.

SIZE OF HYDROCOELE

In our study wehave found that 52.31% patients had the size more than 200 ml while 47.69% patients had size of less than 47.69 ml.

COMPLICATIONS

Complications	Lord's Plication		Jabouley's Procedure	
	Syed Asadet al ⁶⁴	Present study	Syed Asadet al ⁶⁴	Present study
Haematoma	--	3.13	1	7.81
Scrotal oedema	2	4.69	5	9.38
Wound infection	--	0.00	1	3.13
Disruption of wound	--	0.00	--	1.56
Recurrence	--	0.00	--	0.00
Drain placed	--	16.67	--	82.35

Studies	Procedure and Incidence of haematoma	
	Plication of sac	Excision of sac
Lords et al ⁶²	Nil	--
Efron et al ⁶⁷	1	9
Dahl et al ⁶⁸	--	6
Reddy and Srinivas et al ⁶⁹	Negligible	--
Rai et al ⁷⁰	--	15
Campbell ⁷¹	--	12

Studies	Infection
Lord et al ⁶²	--
Efron et al ⁶⁷	--
Reddy et al ⁶⁹	Negligible
Rai et al ⁷⁰	Nil

TABLE 10: DIFFERENT COMPARATIVE STUDIES .

CONCLUSION

In our study , we found that mean age group of patient affected with PVH was 44.24 ± 13.71 years, mean duration of swelling was 39.92 ± 34.98 months, median duration of was 14.5 months. In this, right side was most commonly involved as compared to left side or bilateral involvement & scrotal swelling was the commonest complaint followed by dragging pain and discomfort. Thus, we conclude from our study that ,scrotal edema was the commonest complication among Jabouley's Procedure than Lords plication and haematoma was observed more common for Jabouley's Procedure when compared to Lord's plication.

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