

## TO EVALUATE THE OUTCOME JABOULY'S PROCEDURE IN HYDROCELE PATIENTS AT PMCH NAWABSHAH.

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### ABSTRACT

**INTRODUCTION:** Hydrocele is an abnormal collection of serous fluid in layers of Tunica Vaginallis. It is the most common benign scrotal swelling. It is found in 1% in adult male population and around 80-90% male children are vulnerable to develop a patent processus vaginalis (PPV) which, later on decreases to 25-40% at the age of 2 years and 20% till adult life. It is commonly treated by surgery. Jabouly's procedure is the better option with least complication rate. **OBJECTIVE:** To determine the outcome of Jabouly's procedure in Hydrocele patients. **MATERIAL METHODS:** This is a 01 year cross sectional study done at surgical Unit 1 from 3<sup>rd</sup> October 2019 to 2<sup>nd</sup> October 2020. Complete history and clinical examination of inguino-scrotal region was done in order to differentiate scrotal and inguinal conditions. Regional lymph nodes were palpated. Routine blood investigations apart from viral markers like HBsAg, HCV, HIV, and COVID-19 were done. Patient was operated and complications were assessed in order to make results. **RESULTS:** Total patients included in this study were 80. Of them, 50 (62%) patients had right sided hydrocele and 30 (38%) patients were diagnosed as left sided hydrocele. Hematoma was found to be in 4(5%), edema and hardening in 6(7.5%), wound sepsis in 1(1.25%), recurrence in 2(2.50%) and wound dehiscence in 1(1.25%) patients. **CONCLUSION:** It is concluded that jabouly's procedure is the better one with good success rate and least complication rate.

**KEY WORDS:** Jabouly's Procedure, Hydrocele, Tunica Vaginallis, Hematoma, Edema.

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**How to cite this article:** Ghumro AH<sup>1</sup>, Ayoub S<sup>2</sup>, Khowaja MA<sup>3</sup>, Zardari IA<sup>4</sup>, Memon ZAI<sup>5</sup>, Soomro IA<sup>6</sup>. **TO EVALUATE THE OUTCOME JABOULY'S PROCEDURE IN HYDROCELE PATIENTS AT PMCH NAWABSHAH.** JPUMHS; 2021;11:03,22-25.  
<http://doi.org/10.46536/jpumhs/2021/11.03.310>

Received May 10<sup>th</sup> 2021, Accepted On 15<sup>th</sup> August 2021, Published On 30<sup>th</sup> September 2021.

### INTRODUCTION

Hydrocele is simply defined as an abnormal communication of serous fluid in layers of Tunica Vaginallis. It is the most common benign scrotal swelling with incidence of 1% in adult male population. It is estimated that around 80-90% male babies possess a patent processus vaginalis (PPV) which, later on decreases to 25-40% at the age of 2 years and 20% till adult life.<sup>1</sup>

There are two types of hydrocele viz Primary and Secondary. There are 4 types of primary hydrocele. These are congenital, infantile, encysted and vaginal.<sup>2</sup> In Primary hydrocele, Processus Vaginalis of spermatic cord obliterates and culminates the communication between abdomen and scrotum but distal portion remains patent as tunica vaginalis. It is divided into four types

according to site of obliteration of processus vaginalis.<sup>3</sup>

a) **Congenital hydrocele:** Hydrocele could be congenital and acquired. Former occurs due to non-obliteration of processus vaginalis. During embryological period of testis in abdomen, they descend into scrotum through inguinal canal in 3<sup>rd</sup> week of gestation accompanied with peritoneal layer of processus vaginalis that eventually obliterates and remains as tunica vaginalis (TV) whose purpose remains to cover the anterior, lateral and medial aspects of testis. TV is the area proving space for accumulation of fluid coming from peritoneal cavity leading to congenital hydrocele.<sup>4</sup>

b) **Infantile Hydrocele:** during this, Processus vaginalis obliterates at deep region ring however portion distal thereto is

unbroken and permits communication for fluid accumulation.

**c) Encysted upset of cord:** each proximal and distal portion of processus vaginalis obliterates whereas central portion remains intact for fluid to accumulate at this web site.

**d) Vaginal Hydrocele:** Processus vaginalis remains patent solely around bollock and fluid accumulates. <sup>5</sup>

Secondary upset happens because of underlying conditions. This might be infection, TB channel, Syphilis, Trauma, Post hernioraphy and malignancy. <sup>6</sup>

Hydrocele is diagnosed by clinical evaluation. However, laboratory investigations such testicular tumor markers, urine DR and Blood CP are required to rule out other causes of hydrocele. Ultrasonography, Duplex ultrasound and abdominal imaging is done to see contents and testicular blood flow. <sup>7</sup>

Surgery is the treatment of choice for hydrocele either primary or secondary. In congenital hydrocele, herniotomy is also significant if it does not resolve spontaneously. Two ways are normally done. Jaboulay's Procedure is appropriate for big thick-walled disorder and chyloceles. <sup>8</sup> during this technique, subtotal excision of the adventitia vaginalis is completed. Sac is everted behind the male reproductive gland followed by putting the male reproductive gland during a recently created pocket between the connective tissue layers of pocket. Throughout this procedure, it's vital to stop induced injuries to gonad vessels, canal or duct. Surgical Complications might be reactionary hemorrhage, pyocele, wound infection, sinus formation, pouch dropsy and continual disorder. <sup>9</sup>

**Rationale of study:** - The rationale of this study is to find out the complication rate of Jaboulay's procedure for Hydrocele so that this procedure be applied for the benefit of patients in future.

## MATERIAL METHODS

This is a cross sectional study done at surgical Unit one among length of twelve months from third Gregorian calendar month 2019 to second Gregorian calendar month 2020. All the patients were admitted through Surgical out Patient Department (OPD) and emergency department of Peoples Medical faculty Hospital (PMCH) Nawabshah. Ethical committee approval was also taken. All patients presented with painless scrotal

swellings and feeling of discomfort. Detailed history was taken. Thorough clinical inguino-scrotal examination was done in supine and upright positions. Cough impulse was observed. Ring Occlusion test was also done. Transillumination test and fluctuation were also done. Differentiation was made between scrotal and inguino-scrotal swellings. Ultrasound was obtained to confirm the diagnosis and rule out other possibilities. Regional lymph nodes were palpated. Routine blood investigations including viral markers like HBsAg, HCV, HIV, and COVID-19 were done. Cardiac and physiological state fitness was obtained. Surgery was planned once informing the surgical treatment to patient in addition as attendants along side per operative and surgical complications. Consent was taken and patients were shifted to Operation Theater. The surgery was done. Patients were shifted to ward and assessed for three to five days. Patient was necessitated frequent follow ups for six months.

## Procedure

After regional anaesthesia, antiseptic cleansing was done at operative web site. pocket was grasped in one hand to stretch pouch skin and 6-10 cm incision was given on anterior surface of pocket over the foremost outstanding part of upset faraway from ball. Skin, dartos and skinny cremasteric fascia were incised and mirrored back along as one layer from the underlying membrane bone layer of membrane vaginalis. After clear separation of hydrocele laterally and medially, fluid was aspirated with trocar. Keeping one finger inside sac, dissection of sac was done from the overlying scrotum so that spermatic cord and testicle may be freed in operative field. Sac was opened and testicle palpated. Remaining wall sac is trimmed leaving a margin of 2 cm. sac was everted behind testis by interrupted sutures and put into scrotum and wound was closed accordingly.

## RESULTS

Total patients included in this study were 80. Of them, 50 (62%) patients had right sided hydrocele and 30 (38%) patients were diagnosed as left sided hydrocele.

All aged between 17 to 70 years. Average age was 47 years. 10 (12.5%) patients aged from 17 to 25 years, 20 (25%) patients from 26 to 38 years, 40 (50%) presented between 39 to 60 years 10(12.5%) patients were of age between 61 to 70 years.

**TABLE 1 SHOWING AGE OF PATIENTS**

S NO	AGE IN YEARS	NO OF PTS	%
1	17-25	10	12.5%
2	26-38	20	25 %
3	39-60	40	50 %
4	61-70	10	12.5%
Total	n=17-70	n=80	

**Table 2: Distribution of patients according to Symptoms**

S No	Symptoms	No of Patients	Percentage
1	Scrotal swelling	80	100 %
2	Dragging type of pain	20	%
3	Mechanical discomfort due to scrotal swelling	10	%

Hematoma was found to be in 4(5%), edema and hardening in 6(7.5%), wound sepsis in 1(1.25%), recurrence in 2(2.50%) and wound dehiscence in 1(1.25%) patients.

**TABLE 3 SHOWING COMPLICATIONS OF JABOULEYS PROCEDURE.**

S No	Complications	No of Patients	Percentage
1	Hematoma	4	5%
2	Edema and hardening	6	7.5%
3	Wound infection	2	2.50%
5	Recurrence	2	2.50%
6	Wound dehiscence	1	1.25%
Total		n=13	18.75%

## DISCUSSION

A hydrocele is a condition with fluid filled sac around testicle. It is common in children but can affect any age group. About 10% of males are born with this disease but it cannot endanger testis. They usually present painless and it is imperative to rule out other conditions of scrotum like testicular tumor. Hydrocele is treated surgically with various methods. Hydrocelectomy is the gold standard procedure to treat hydrocele as compared to sclerotherapy and aspiration. For hydrocelectomy, Jabouley's procedure is the better one with good success rate and least complications.<sup>10</sup>

Postoperative hematoma is the common complication of Jabouley's procedure. In one study, hematoma was seen among 3.3% patients. In another study, hematoma was in 4.8% patients. In our study, hematoma was in 5% of cases. Wound infection is additionally seen among those patients. United Nations agency have had additional operative trauma and it ranges from superficial surgical web site infection, symptom formation and conjointly pyocele. In a study, infection rate was recorded between 5-14%. In another study, superficial web site infection was confined to pocket skin. In some patients, gentle to moderate cellulites was noted. In our study, wound infection was among 2.5% patients but

wound dehiscence was also recorded in 1.25% patients.<sup>11</sup>

Recurrence is rare complication of Jabouly's technique. In one study, recurrence rate was 1.6% in conventional procedure but this rate was also seen in minimal invasive surgery technique of Hydrocele. In another study, recurrence was from 1.3-7%. In our study, recurrence was among 2.5%.<sup>12</sup>

The most common complication is persistent scrotal swelling and hardening. In some patients, delicate to moderate pouch swelling subsides at intervals some days. In a study, pouch swelling and hardening was determined in twenty four.2%. In one study, inflammation was seen in six.45% patients. In a study conducted on conventional Hydrocelectomy, overall complication rate was 37%. In our study, overall complication rate was 18.75%.<sup>13</sup>

## CONCLUSION

It is concluded that Jabouly's procedure is the better one with good success rate and least complication rate.

**ETHICS APPROVAL:** The ERC gave ethical review approval

**CONSENT TO PARTICIPATE:** written and verbal consent was taken from subjects and next of kin

**FUNDING:** The work was not financially supported by any organization. The entire expense was taken by the authors

**ACKNOWLEDGEMENTS:** We would like to thank the all contributors and staff and other persons for providing useful information.

**AUTHORS' CONTRIBUTIONS:** All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated in the work to take public responsibility of this manuscript. All authors read and approved the final manuscript.

**CONFLICT OF INTEREST:** No competing interest declared.

## REFERENCES

1. Ozkaya, F., Cakici, O.U. Jaboulay's technique contrasted with a novel hydrocelectomy technique using a vessel sealer in the treatment of adult hydrocele: a prospective randomized study. *Int Urol Nephrol*, 2020, 52, 447–453.
2. Dagur G, Gandhi J, Suh Y, Weissbart S, Sheynkin YR, Smith NL, Joshi G, Khan SA. Classifying Hydroceles of the Pelvis and Groin: An Overview of Etiology, Secondary Complications, Evaluation, and Management. *Curr Urol*. 2017 Apr; 10(1):1-14.

3. Cimador M, Castagnetti M, De Grazia E. Management of hydrocele in adolescent patients. *Nat Rev Urol*. 2010; 7(7):379-85.
4. Cocci A, Patruno G, Gandaglia G et al , Senato degli Specializzandi Study Group. Urology residency training in Italy: results of the first national survey. *Eur Urol Focus*. 2018, 4(2):280–287.
5. Swartz MA, Morgan TM, Krieger JN, Complications of scrotal surgery for benign conditions. *Urology*,2007, 69(4):616–619
6. Omkar Mahendra Shirke, Balaji Dhaigude, S.V. Panchbhai et al. A Comparative Study of Different Surgical Procedures in the Management of Primary Vaginal Hydrocele. *New Indian J Surg*. 2019; 10(2):175-181.
7. Jamuluddin M, Alam T, Khan RA et al. Results of surgical management of primary vaginal hydrocele in patients of all ages. *Pak J Surgery*. 2009; 25 (3):190-94.
8. Dagur G, Gandhi J, Suh Y, Weissbart S, Sheynkin YR, Smith NL, Joshi G, Khan SA, Classifying Hydroceles of the Pelvis and Groin: An Overview of Etiology, Secondary Complications, Evaluation, and Management. *Current urology*. 2017 Apr;
9. Jayakarthish Y, Patil MB. Comparative Study of Efficacy of Injection Sclerotherapy versus Surgery as Primary Modality Therapy in Primary Vaginal Hydrocoele: A Randomised Control Study. *Journal of Evolution of Medical and Dental Sciences* 2015; 4 (09): 1405-13
10. Naga Muneiah S, Naik BB, Sabitha P, Prakash GV. A comparative study of clinical presentation, surgical procedures and complications of primary vaginal hydroces. *IOSR Journal of Dental and Medical Sciences* 2015; 14(10-II): 10-22.
11. Ahmed MHS, Bankar SS, Gosavi VS, Dalavi SB, Gurav PD. Clinical profile and surgical management of primary vaginal hydrocele: our experience in a rural India. *Int Surg J* 2017; 4:1653-6.
12. Kumar SK, Sasikumar J, Seetharamaiah T, Ajay Kumar B, Venugopalacharyulu NCH. Cystic swellings of scrotum: management. *Int J Med Res Health Sci*. 2014;3(2):338-341
13. Ranjan P, Singh R, Ansari MA. Study on Clinical Profile and Surgical Management of Cases of Primary Vaginal Hydrocele. *Asian J. Med. Res*. 2019; 8(1):05-09.