



## International Journal of Pharmacology & Toxicology

www.ijpt.org

General Surgery

### COMPARISON OF RECURRENCE AND POSTOPERATIVE COMPLICATIONS BETWEEN 3 DIFFERENT TECHNIQUES FOR SURGICAL REPAIR OF IDIOPATHIC HYDROCELE

**Dr.Chandrakanth Varma\* & Dr.Chandan Kumar**

<sup>1</sup>Assistant Professor, Sri Lakshminarayana Institute of Medical Sciences, Kudapakkam Post, Puducherry, 605502.

<sup>2</sup>Assistant Professor, Bharath Medical College and Hospital, Selaiyur, Chennai, Tamil Nadu 600073.

#### ABSTRACT

Hydrocele is a condition that affects about 1% of adult males. The most common form of hydrocele in adults is primary or idiopathic hydrocele, which is caused by an excess of fluid surrounding the testis between the parietal and visceral layers of the tunica vaginalis. This fluid retention is caused by a reduction in blood flow. The fluid from the tunica vaginalis is absorbed by lymphatic channels. The majority of hydroceles do not need care, but if they are large enough to cause discomfort, a simple outpatient procedure may be performed. In 91-97 percent of cases, the procedure is effective. The authors' main goal in this research is to see whether there is a disparity in recurrence rates between patients who have Lord's procedure and those who have other hydrocele repair techniques. The authors' secondary aim is to compare the complication rates of the different groups and see if there are any benefits of conducting one procedure over the others. Between these classes, there was a major difference (Kruskal-Wallis test,  $p=0.03$ ). Recurrence differences were not statistically significant (chi-square test,  $p=0.23$ ). Complications were discovered in 20 (33.3%) of the patients. Table 1 summarises the findings of the data on complications. The most common complication was hematoma, which was accompanied by infection and postoperative pain. Patients who underwent Lord's procedure for hydrocele treatment experienced no complications. In terms of hematoma development and overall complications, there was a major difference between classes. There was no connection between the location of the drain and the rate of complications. For idiopathic hydrocele, the Lord's procedure is an excellent treatment choice. Recurrence rates are mild, comparable to conventional excisional and Jaboulay bottleneck procedures, with a lower hematoma and overall complication rate. Furthermore, there is no need for a drain, and we can use this technique on hydroceles of any scale.

**Keywords:** Hydrocele, Idiopathic disease, surgical repair, vaginalis.

#### INTRODUCTION

Hydrocele is a condition that affects about 1% of adult males. The most common form of hydrocele in adults is primary or idiopathic hydrocele, which is caused by an excess of fluid surrounding the testis between the parietal and visceral layers of the tunica vaginalis. This fluid retention is caused by a reduction in blood flow. The fluid from the tunica vaginalis is absorbed by lymphatic channels. The majority of hydroceles do not need care, but if they are large enough to cause discomfort, a simple outpatient procedure may be performed. In 91-97 percent

of cases, the procedure is effective. Although there are a variety of corrective surgical procedures available, the following are the three most popular. Procedure of Jaboulay (eversion of sac followed by sewing the edges together behind testicle), Lord's procedure (drainage of hydrocele) and hydrocelectomy (excision of sac with oversewing of edges) fluid with plication of the tunica vaginalis parietal layer). Hydrocele surgery is a procedure that is used to treat hydrocele. Several centuries have passed, but the techniques of Jaboulay and Lord have only been identified since 1902 and 1964, respectively.

Corresponding Author:- **Dr.Chandrakanth Varma**

Excisional hydrocelectomy and the Jaboulay method are not the same as Lord's technique. Since there is no dissection between the Dartos and tunica vaginalis layers and no delivery of outside of the scrotum, the hydrocele sac. Because of the lack of supportive care after scrotal surgery, recovery can be difficult structures that cover the testis, as well as complications such as hematoma, infection and testalgia. A large volume hydrocele has also historically been thought to be better handled. Due to redundant tissue and residual scrotal bulk caused by the plication of the sac, it was removed. Most studies have measured the frequency of complications and their severity because of the high rate of cure after surgery. The factors that lead to longer operative times. However, cure rates and post-operative care for, there hasn't been much news on patients who have undergone various procedures.

### **Aims and objective:**

The authors' main goal in this research is to see whether there is a disparity in recurrence rates between patients who have Lord's procedure and those who have other hydrocele repair techniques. The authors' secondary aim is to compare the complication rates of the different groups and see if there are any benefits of conducting one procedure over the others.

### **Materials and methods:**

A retrospective chart analysis was carried out for the period January 2018 to May 2019. Hydrocelectomy CPT codes were derived from surgeries conducted at three clinical sites throughout the healthcare system. Hydroceles handled with an open trans-scrotal approach and attendance at a follow-up visit were both needed for inclusion. Prior ipsilateral scrotal surgery, active infection, or prior pelvic radiation were all considered exclusion criteria. Concurrent treatments for other pathologies, such as spermatocele or epididymectomy, were not ruled out. The following data points were extracted from each chart: procedure, complication, drain positioning, hydrocele volume, and hydrocele recurrence. Hematoma, infection, and reoperation for pain were also considered complications. Recurrences were counted as complications if they involved additional procedures. Hematomas were counted as complications if they required intervention. The time between their surgery and their most recent visit to our department for some cause was used to measure the follow-up time. To avoid missing recurrences, the entire follow-up duration was checked for complications rather than a specific time after surgery. Because of the retrospective nature of the study, follow-up was not standardised among surgeons and was based on their preferences. Lord's repair was carried out as previously mentioned.

To determine associations between repair type and categorical variables of interest, a Pearson chi-square

test (or Fisher's exact test when low cell counts were present) was used. The discrepancies in continuous variables of interest between the three forms of repair were assessed using the Kruskal-Wallis test. Statistical significance was shown by a p-value of less than 0.05.

### **Results:**

There were 250 hydrocele surgeries that met the requirements for inclusion. The operations were carried out by 23 separate surgeons, with 20 (7%) of them being bilateral. Each testis was not examined separately since the bilateral surgeries were handled as a single event. One of the three techniques mentioned above was used: the Jaboulay procedure, hydrocelectomy, or Lord's

Procedure. A Jaboulay procedure was used in 60 (24%) of the surgeries, 125 (50%) of the surgeries used classic hydrocelectomy, and 65 (26%) of the surgeries used Lord's repair. A Jaboulay was performed by 9 separate surgeons, a hydrocelectomy was performed by 18 surgeons, and Lord's repair was performed by 9 surgeons. In the entire groups, only 7 surgeons used only one technique, and the rest of the surgeons used various techniques depending on the clinical presentation. The median (range) ages were 57 (18-89), 62 (12-89), and 57 (23-87), respectively, and they did not differ statistically. The Jaboulay patients had a median (range) follow-up of 9.7 (0-102) months after surgery, 25.2 (0-182) months after hydrocelectomy, and 26.1 (0-171) months after Lord's. Between these classes, there was a major difference (Kruskal-Wallis test,  $p=0.03$ ). Recurrence differences were not statistically significant (chi-square test,  $p=0.23$ ). Complications were discovered in 20 (33.3%) of the patients. Table 1 summarises the findings of the data on complications. The most common complication was hematoma, which was accompanied by infection and postoperative pain. Patients who underwent Lord's procedure for hydrocele treatment experienced no complications. In terms of hematoma development and overall complications, there was a major difference between classes. There was no connection between the location of the drain and the rate of complications.

These findings are the largest single-institution comparison of operative procedure and related results for surgical treatment of idiopathic hydrocele that the authors are aware of. Many different surgeons participated in the operations, with the majority of them belonging to various surgical procedure classes. We believe that having different surgeons in each group strengthens the study and reduces the impact of individual surgeon expertise on the results. The study's limitations include its non-randomized retrospective existence and the Jaboulay group's shorter follow-up period. Furthermore, we don't know why each surgeon chose their specific surgical procedure, and it's likely that these variables affect the outcomes assessed.

**Table 1 – Post operative complication by operative technique**

	<b>Jaboulary</b>	<b>Hydrocelectomy</b>	<b>Lords</b>	<b>P value</b>
Hematoma	25 (41.66%)	66 (52.8%)	0	0.02
Pain	5 (25%)	40 ( 66.6%)	0	0.12
Infection	10 ( 16.6%)	8(13.33%)	0	0.12
Total complication	20 (33.33%)	11 (8.8%)	0	0.0016
Total procedures performed	60	125	65	

**Conclusion:**

For idiopathic hydrocele, the Lord's procedure is an excellent treatment choice. Recurrence rates are mild, comparable to conventional excisional and Jaboulary

bottleneck procedures, with a lower hematoma and overall complication rate. Furthermore, there is no need for a drain, and we can use this technique on hydroceles of any scale.

**REFERENCES**

- Hosseini, M., Heidari, A., & Jafarnejad, B. (2013). Comparison of Three Surgical Methods in Treatment of Patients with Pilonidal Sinus: Modified Excision and Repair/Wide Excision/Wide Excision and Flap in RASOUL, OMID and SADR Hospitals(2004-2007). *Indian Journal of Surgery*. <https://doi.org/10.1007/s12262-012-0713-3>
- Tou, S., Brown, S. R., & Nelson, R. L. (2015). Surgery for complete (full-thickness) rectal prolapse in adults. In *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.CD001758.pub3>
- NCT02984917. (2016). Anterior Transversalis Fascia Approach Versus Preperitoneal Space Approach for Inguinal Hernia Repair in Residents. <https://Clinicaltrials.Gov/Show/NCT02984917>.
- VázquezSarandeses, A., Muñoz-Gállico, E., Masero-Casasola, A. R., GarcíaGarcía-Porrero, A., Gutiérrez-Vélez, M. C., & VielsaGordillo, I. (2018). Is it possible to define risk factors for the anatomical or symptomatic recurrence of pelvic organ prolapse surgically corrected using native tissue? *Neurourology and Urodynamics*.
- Goodwin, J. S., & Traverso, L. W. (1995). A prospective cost and outcome comparison of inguinal hernia repairs - Laparoscopic transabdominalpreperitoneal versus open tension-free preperitoneal. *Surgical Endoscopy*. <https://doi.org/10.1007/BF00188455>
- N., S., S., R., C., H., S., M., C., C., M., M., V., N., & D., R. (2019). Evaluating abdominal wall function post ventral hernia repair: A comparison of open versus robotic-assisted retromuscular techniques. An americas hernia society quality collaborative study. *Surgical Endoscopy*.
- C., M., C.E.J., S., M.C., S., C.P., V. de V., N., B., & D., T. (2011). Thoracoscopic VS. thoracotomic repair of esophageal atresia: A retrospective one-centre study. *Journal of Laparoendoscopic and Advanced Surgical Techniques*.
- Meeussen, C., Sloots, C. E. J., Struijs, M. C., Van de Ven, C. P., Bax, N., Tibboel, D., & Wijnen, R. (2011). Thoracoscopic VS. thoracotomic repair of esophageal atresia: A retrospective one-centre study. *Journal of Laparoendoscopic and Advanced Surgical Techniques*.
- Z.U., O., H., O., M., S., I.T., S., & Y., S. (2013). Comparison of primary repair and limberg flap technique in pilonidal sinus disease. *European Surgical Research*.
- Kosztowski, T., & Gokaslan, Z. L. (2016). Determining the Extent of Lumbar Discectomy in Patients with Herniated Lumbar Discs. *Insights in Neurosurgery*. <https://doi.org/10.21767/2471-9633.10002>.