

# Review of Vaginal Hydrocele Surgery in Lumbini Provincial Hospital over a Period of Five Years

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**Abstract:** Vaginal hydrocele is one of the common reasons for surgical outpatient consultation. Surgery for vaginal hydrocele i.e. eversion of vaginal sac (EVS) is common elective intermediate operation mostly performed under local anesthesia. The aim of this study is to share vaginal hydrocele surgery in Lumbini Provincial Hospital (LPH), Butwal. This is a retrospective analysis of vaginal hydrocele surgery done over a period of five years (2012 to 2016) in LPH, Butwal was done after the approval from Hospital ethical committee. All required information was retrieved from the medical record section. Total 164 vaginal hydrocele surgery was done for different sizes during the study period. The number of cases increased in 2016 because of free hydrocele surgery programs conducted by government of Nepal was well informed to ordinary people. The age distribution of the operated patients was 15 years to 92 years and common in productive age (21-60 yrs) i.e. 78%. Most of the hydrocele surgeries were done under local anesthesia i.e. 129 (78%). Most common complications found post operatively were 2.5% haematoma, 7.5% surgical site infection (SSI), 10% scrotal oedema and 2% recurrence. In our study chylocele was found in 10 (6/9%) cases of hydrocele. No testicular malignancy and tuberculosis of epididymis found during study period. No fatality cases during our study period. Vaginal hydrocele surgery is one of the common intermediate and mostly day care elective surgery done under local anaesthesia with relatively satisfactory outcome in LPH, Butwal.

**Keywords:** Hydrocele, EVS, LPH, Butwal

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## 1. Introduction

Hydrocele is the collection of fluid between two layers of tunica vaginalis of testis, [1] that's why it is called vaginal hydrocele. It may be congenital and acquired. Acquired hydrocele can be primary and secondary. Primary hydrocele is idiopathic. The reason for secondary hydrocele is from diseases of the testis and epididymis. Almost 30% of hydrocele are secondary hydrocele. Hydrocele can be unilateral and bilateral. In about 5% of cases inguinal hernia is associated with hydrocele [2]. The diagnosis of hydrocele is made by clinically (fluctuation and translucency tests of scrotum mainly) and sometimes requires ultrasound of scrotum. The common complications of a hydrocele are haematocele, infection, atrophy of the testis [3] and rupture of hydrocele [4]. The hydrocele of the canal of nuck in female patients is rare in which a cyst develops anterior to

the round ligament of uterus [5].

The main treatment of vaginal hydrocele is surgery (hydrocelectomy). The main technique of surgeries is Jaboulay's procedure (eversion of sac) and Lord's operation (if sac is thin walled). Excision and eversion technique is suitable for large thick walled hydroceles and chylocele [6]. If unfit for surgery aspiration of the hydrocele fluid and injection of sclerosants such as tetracycline or doxycycline has been proven to be effective but is painful [7]. As far as possible aspiration must be avoided because of infection and hematoma. Complications of hydrocelectomy are hematoma, infection, testicular injury leading testicular atrophy and infertility [8]. Recurrence should be below 5%. Injury to spermatic cord structure 1-3% (occasional upto 10%). Hydrocele fluid is amber coloured and sterile. it contains water, albumin, fibrinogen mainly. presence of chylous fluid in the tunica vaginalis called chylocele and it is mainly due to filariasis. In adults filariasis caused by *Wuchereria bancrofti*

is the main culprit globally affecting 120 million people in more than 73 countries [9] but in USA where iatrogenic causes (trauma and post herniorrhaphy complications) predominant for hydrocele [10]. Gonococcal epididymo-orchitis is also common cause for secondary hydrocele. Tuberculosis of epididymis and testicular tumour are rare causes for vaginal hydrocele. Indications for hydrocele surgery are mainly dragging pain, interference with micturition, work and sexual function.

## 2. Methods

This is a retrospective study. All patient underwent vaginal hydrocele surgery from 2012 to 2016 BS in LPH, Butwal, the datas were retrieved from OT register, OPD register and medical record section. Vaginal hydrocele diagnosed clinically mainly and only in few cases done USG scrotum. Routine blood investigation done as per our protocol. Data were analysed by standard tools. complications were defined and included when fits to the defined criteria.

**Haematoma:** Postoperative bleeding requiring intervention, mainly re-exploration.

**Surgical site infection (SSI):** Defined by surgeon or pus discharge from the operative wound site.

**Scrotal Oedema:** Defined by surgeon clinically and occasionally by ultrasound.

**Recurrence:** Defined by surgeon clinically on postoperative follow up and by help of ultrasound.

## 3. Results

Total 164 vaginal hydrocele surgeries were done over the study period. Year wise distribution of number of cases is shown in table 1.

**Table 1.** Year wise distribution of hydrocelectomy.

S.No.	Year	Number of cases
1	2012	13
2	2013	12
3	2014	18
4	2015	40
5	2016	81
Total		164

Similarly in age distribution was from 15 -92 years with mean age of 41.5 years. Most of the patients were productive age group 21-60 years i.e. 129 (78%) cases.

**Table 2.** Showing age distribution of patients.

S.No.	Age group	Number of cases
1	< 20 year	7
2	21-40 year	56
3	41-60 year	73
4	> 60 year	28
Total		164

Complications of hydrocele surgery were mainly hematoma, surgical site infection, scrotal oedema and recurrence shown in table 3 and managed accordingly.

**Table 3.** Showing post operative complications.

S.No.	Complication	Number of cases
1	Hematoma	4 (2.5%)
2	Surgical site infection	12 (7.5%)
3	Scrotal oedema	16 (10%)
4	Recurrence	3 (2%)
Total		35

85 cases (52%) were right sided and 7 cases (4.6%) were bilateral hydrocele in our study. Most of the hydrocele surgeries were done under local Anesthesia 129 (78%). Hydrocele surgery done under intravenous anaesthesia was 7 (4.6%) and under SAB (Spinal Anesthesia) were 28 (18.4%) cases. Chylocele found in 10 (6.9%) cases of hydrocele. No testicular malignancy and tuberculosis of epididymis found during study period. No death occurred during study period.

## 4. Discussion

The term hydrocele in greek hydōr, water, kēlē, a swelling i.e. swelling due to accumulation of fluids (fluid collection between two layers of tunica vaginalis). This is very ancient disease. Differencial diagnosis of hydrocele are inguiscrotal hernia, varicocele, epididymal cyst, spermatocele and testicular tumour. Hydrocele is estimated to occur in as many as 1 percent of the male population. 26.79 million Cases of hydrocele world wide and 48% of these cases are In India [11]. The exact incidence of hydrocele in Nepal is not known.

Filarial hydrocele is the most common chronic manifestation of lymphatic filariasis [12]. Filarial hydrocele poses a major public health burden to several filarial endemic countries in Asia and Africa. Hydrocele is more common in poor people. It causes economic and psychological burdens on patients and there families. Several problems related to marriage and sex due to hydrocele in rural communities of Orissa of India is explored recently [13]. The terai region of Nepal is endemic area for vaginal hydrocele. In terai Region of Nepal has also few cases of filarial hydrocele.

For vaginal hydrocele we did Jaboulay's procedure mainly. N. Ananthakrishnan et al recommended that the operation performed for hydrocele should be a hydrocelectomy and the Jaboulay's procedure is best avoided. [14] Our complications rates are comparable which is discussed in below. In all cases of hydrocele surgery given injection ceftriaxone half hour before incision of the surgery and analgesic as required. Oral antibiotic cloxacillin and Tinidazole routinely given for five days. For chylocele given additional diethylcarbomazine for 3 weeks.

N. Ananthakrishnan et al said that antibiotics should be administered starting from the night before sugery for a total duration of five days. The recommended antibiotics was amoxicillin and metronidazole [14]. We observed smiles on the faces of the patient and their wives when they came for suture removal.

Ahmed et al found in their study post operative

complications in hydrocele 1.6% haematoma, 5% wound infection, 21.60% skin oedema and 1.6% recurrence. [15]. In our study we found complications haematoma in 2.5%, wound infection (SSI) in 7.5%, scrotal oedema in 10% and recurrence in 2% post operatively for hydrocele surgery. These are comparable except scrotal oedema which is slightly lower in our study. It is recommended that all the operations for uncomplicated hydrocele in patients with out serious comorbidity should be performed under local anesthesia (7). In our study 78% hydrocele surgery were done under local anesthesia.

The number of hydrocele surgery was low and static almost from 2012 to 2014 in LPH, Butwal but because of free hydrocele surgery the number were increased later. In 2016 free hydrocele surgery started in LPH, Butwal and the number of surgery dramatically increased (almost 50% of total cases). In recent years Ministry of Health and Population (MoHP), Government of Nepal has also started albendazole and diethylcarbamazine to prevent filarial elephantiasis and filarial hydrocele. We should also start awareness programs for hydrocele in rural area and rural communities.

## 5. Conclusion

This study analysed the vaginal hydrocele surgery over the period of five years and it is one of the common intermediate elective day care surgery done in LPH, Butwal. Most of the hydrocele surgeries were done under local anesthesia. The complications rate of the surgery was comparable with other studies and there were no mortality. Filarial hydrocele was not common in our study. As hydrocele is common in poor people the free hydrocele government's surgery programme is beneficial for them.

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