Mini Review

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# Hydrocele Surgery Treatment and Management

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## Abstract

In mean vaginal hydrocele is the most common morbidity due to Wuchereria bancrofti. Diagnosis is straightforward most of the time but when the swelling is not transilluminant, patients in whom the diagnosisis in doubt, children with hydroceles and those with co-morbid conditions should have ultrasonography to differentiate these swellings [1]. Studies on the effect of medical treatment with diethylcarbamazine on the size of hydroceles are inconclusive. The only effective treatment for hydrocele issurgery as the minimally in invasive therapy like aspiration and sclerotherapy are known to have high recurrence rates. Several surgical options are available for managing hydrocele but the recommended operation is hydrocelectomy, i.e. a subtotal excision of the parietal layer of the tunica vaginalis leaving a rim of approximately one-centimeter width around the testis and epididymis [2].

A hydrocele is an abnormal collection of serous fluid between the two layers of tunica vaginalis of testis [3]. It can either be congenital or acquired.

Congenital hydrocele results from failure of processus vaginalis to obliterate [4]. During development, the testes are formed retroperitoneally in the abdomen and proceed to descend into the scrotum via the inguinal canal in the third gestational week. This descent of the testes into the scrotum is accompanied by a fold of peritoneum of the processus vaginalis. Normally, the proximal portion of processus vaginalis gets obliterated while the distal portion persists as the tunica vaginalis covering the anterior, lateral, and medial aspects of the testes. The tunica vaginalis is a potential space for fluid to accumulate, provided the proximal portion of processus vaginalis remains patent and results in free communication with the peritoneal cavity, leading to congenital hydrocele [5].

Surgery is the treatment of choice for hydrocele, and it is warranted when hydrocele becomes complicated or symptomatic. For congenital hydroceles, herniotomy is performed, provided they do not resolve spontaneously [6]. On the other hand, acquired hydroceles subside when the primary underlying condition resolves.

**Keywords:** Filariasis; Hydrocele; Surgery

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## Treatment and Management

There are two common surgical approaches available for hydrocelectomy:

**Plication:** This technique is suitable for thin-walled hydroceles. As there is minimal dissection, the risk of hematocele or infection is significantly reduced. Lord plication involves the tunica being bunched into a ruff by applying a series of multiple interrupted chromic catgut sutures for the sac to form fibrous tissue [7].

## Methods

A systematic literature review relating to timing of PPV ligation

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and a population-based study to define number of PPV ligations performed annually in England and age at surgery were conducted [8].

**Excision and Eversion:** This technique is suitable for large thick-walled hydroceles and chyloceles.[8] It involves subtotal excision of the tunica vaginalis and everting the sac behind the testes followed by placing the testes in a newly created pocket between the fascial layers of the scrotum (Jaboulay procedure) [9]. Particular consideration is taken not to damage epididymis, testicular vessels, or ductus deferens.

## Diagnosis

It is essential to examine a patient with a scrotal swelling and differentiate between a hydrocele and other causes of inguino-scrotal or scrotal swellings other than hydroceles as per the algorithm. For this purpose the skill of performing and interpreting a transillumination test is mandatory [10]. All inguino-scrotal swellings and scrotal swellings that are not transilluminant, patients in whom the diagnosis is in doubt, children with hydroceles and those with co-morbid conditions should have ultrasonography to differentiate these swellings.

# Conclusion

In men, vaginal hydrocele is the most common morbidity due to Wuchereria bancrofti. Diagnosis is straightforward most of the time but when the diagnosis is in doubt ultrasonography is a useful tool to differentiate these swellings. As the effect of medical treatment with diethylcarbamazine on the size of hydroceles are doubtful, double blind randomized clinical trials are required to generate evidence on the effect of diethylcarbamazine on hydroceles of different grades. The only effective treatment for hydrocele is surgery as the minimally invasive therapy like aspiration and sclerotherapy are known to have high recurrence rates. In men, vaginal hydrocele is the most common morbidity due to Wuchereria bancrofti. Diagnosis is straightforward most of the time but when the diagnosis is in doubt ultrasonography is a useful tool to differentiate these swellings. As the effect of medical treatment with diethylcarbamazine on the size of hydroceles are doubtful, double blind randomized clinical trials are required to generate evidence on the effect of diethylcarbamazine on hydroceles of different grades. The only effective treatment for hydrocele is surgery as the minimally invasive therapy like aspiration and sclerotherapy are known to have high recurrence rates. The results of this study indicate that this procedure does not require dissection, incision, or manipulation of the scrotal contents during treatment. It also resulted in a low rate of recurrence during the 1 to 3 years of follow-up. Additionally, the procedure has minimal complications and requires a short time, only about 15 minutes.

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