

Original article:

Hydrocele management in a Filaria endemic area

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Abstract:

Lymphatic filariasis(LF) is endemic in over 80 countries worldwide[1,2]. India accounts for nearly 41% of the cases with an at risk population of about 553 million[3,4,5] . Elimination strategies include transmission control and morbidity management. Out of 1200 patients operated in that year,148 were of hydrocele(12.33%). 148 patient records were analyzed. 10 patients were excluded due to presence of concurrent hernia. 132 patients were treated for hydrocele and 6 patients had pyocele. Table.1 details the characteristics of the patients and Table 2. mentions the type of surgery, complications and follow up findings.

The youngest patient was aged 18 years and the oldest was 76 years old. Almost all cases had straw coloured hydrocele fluid , only two patients had milky fluid suggestive of chylocele. The average amount of fluid was 500cc with a range from 200 to 1500cc. From present study we may conclude that Filarial Hydrocele is a physically and mentally debilitating disease. Surgery remains the mainstay of treatment and a simple eversion of the sac can bring succour to the patient. Jaboulay's procedure is a safe and effective treatment for filarial hydrocele .

Introduction:

Lymphatic filariasis(LF) is endemic in over 80 countries worldwide[1,2]. India accounts for nearly 41% of the cases with an at risk population of about 553 million[3,4,5] . Elimination strategies include transmission control and morbidity management [6]. LF is one of the most disabling diseases with lymphedema and hydrocele as its chronic manifestations. Hydrocele is the commonest clinical manifestation of filariasis. It has social, economic, sexual and psychological implications . Studies have pegged the economic loss at US \$one billion/year [7,8]. Surgery is the gold standard treatment for hydrocele[9]. In a recent publication 'Global programme to eliminate Lymphatic filariasis' World Health Organization (WHO) suggested "The choice of method depends mainly on the practice of the surgical service in the district." [10]

Aims & Objectives:

In this study we aim to identify the preferred procedure of surgeons for hydrocele in Gulbarga

district of Karnataka, an endemic area [11], and assess its outcome.

Materials and Methods: The case records of all patients operated for hydrocele at the District Hospital Gulbarga from January 2013 to January 2014 i.e. one year, were analyzed and data collected. Patients with concomitant hernia on the same side were excluded from the study. These patients were prospectively followed up.

Results:

Out of 1200 patients operated in that year,148 were of hydrocele(12.33%). 148 patient records were analyzed. 10 patients were excluded due to presence of concurrent hernia. 132 patients were treated for hydrocele and 6 patients had pyocele. Table.1 details the characteristics of the patients and Table 2. mentions the type of surgery, complications and follow up findings.

The youngest patient was aged 18 years and the oldest was 76 years old. Almost all cases had straw coloured hydrocele fluid , only two patients had milky fluid suggestive of chylocele. The average

amount of fluid was 500cc with a range from 200 to 1500cc.

All patients were admitted and the duration of stay ranged from 5days to 8days. Most of the patients received spinal anaesthesia with only 7 patients being operated under local anaesthesia due to fitness issues. All patients received preoperative intravenous antibiotic which was continued for 3days postoperatively. Injectable analgesic was given for 2 to 3 days postoperatively. Drain was placed in all patients and removed on third postoperative day and wound was kept exposed till stitch removal on 8th to 10th postoperative day.

All patients though operated upon by different surgeons had undergone eversion of the hydrocele sac with or without partial excision. The 6 patients with pyocele underwent orchidectomy. Only one patient had a recurrence on follow-up. The follow up period ranged from 9 months to 1.5 years.

Discussion:

Sushruta described scrotal swellings 2500years ago in the Sushruta Samhita. Ambroise Pare (1501-90)introduced the term 'Hydrocele'. From then to now numerous surgical procedures have been advocated and practised. Von Bergman practised excision of the sac, Matthew Jaboulay did eversion of the sac. Young suggested packing, Andrews invented the bottleneck operation and Ozdilek devised the Window operation[12]. Men with LF may develop hydroceles even after all immunological markers for active infection have resolved[13]. Unless otherwise proven all hydroceles in W.bancrofti endemic areas are to be considered as of filarial origin[1]. Operations are many but which is best and best for filarial hydrocele?

Our study seems to go in favour of the Jaboulays procedure unanimously with all the surgeons, 15 surgeons with experience ranging from 35 yrs to recently graduated, doing the same procedure.

Lymphatic filariasis is a parasitic disease with a lot of morbidity and disability to its credit. India leads the rest of the world in its endemicity with nearly 40% cases occurring in India[4]. In endemic areas upto 40% population is affected, however in infected men the incidence of hydrocele approaches 100%[13,14].

Hydrocele, one of the chronic manifestations of the disease is responsible for social isolation, economic loss, psychological disability and sexual impairment.[15,4,7] With such far reaching impact we need to know whether the results are as good? Does the surgery address the pathology adequately? Our study had only one case of recurrence. Postoperative complications were few and included 5 cases of wound infection.

World wide 90% of disease is caused by W. bancrofti, the parasite responsible for genital pathology[14]. In India, W. bancrofti is the predominant species accounting for 98% of the national burden[4]. The parasite has a predilection for scrotal and spermatic cord lymphatics[16]. The pathology of hydrocele formation is the acute inflammatory reaction to the dead adult worm leading to obstruction of the lymphatics of the tunica vaginalis. Whether the same pathology is responsible for the chronic hydrocele is not known. Noroes and Dreyer have pinpointed lymphatic fistulae to be the likely important mechanism responsible for chronic hydrocele and suggest complete excision of the diseased tunica vaginalis to prevent recurrence[17].

The Jaboulays procedure i.e. eversion of the sac with or without partial excision of the sac has a higher recurrence rate as per their study. However, other studies show good results with the procedure [9]. Our study too shows only one recurrence and no incidence of lymph scrotum was seen.

The World Health Organisation (WHO) in its 2002 guideline manual suggested 'complete excision of

the sac' for filarial hydrocele and in a subsequent publication leaves the choice of method on the surgeons preference [9,18].

The choice of procedure depends on surgeon and patient factors with the safety and simplicity of the procedure going hand in hand with its efficacy, size of hydrocele , recurrence rate, complications etc.

So far no clear consensus has emerged[19]. Our study shows a surgeon preference for eversion of the sac at the District Hospital, Gulbarga.

The eversion technique is a simpler procedure with minimal dissection, minimal bleeding and wider

acceptance whereas complete excision requires more meticulous haemostasis and may prolong the surgery. A prospective comparison study of the different surgical techniques for hydrocele with a longer period of follow up is necessary to bring in a consensus.

Conclusion:

Filarial Hydrocele is a physically and mentally debilitating disease. Surgery remains the mainstay of treatment and a simple eversion of the sac can bring succour to the patient. Jaboulay's procedure is a safe and effective treatment for filarial hydrocele .

Table 1. Characteristics of Patients

No. of Men with Hydrocele	132
No(%) Bilateral	30(22.73)
No. (%) Unilateral	102(77.27)
No(%) on Right	48(36.36)
No(%) on Left	54(40.9)
Mean(Range) of Age(Years) at time of Presentation	45(18-76)
Total No. of Hydroceles	162
Total No. with straw coloured fluid	130
No.(%) with recurrent hydrocele	0

Table 2. Surgery and Complications

No(%) eversion of sac with partial excision	58(35.8)
No(%) eversion of sac without excision	104(64.19)
Postoperative haematoma	0
Postoperative Wound infection(%)	5(3.08)
No(%) with recurrence	1(0.62)
No. of lymph scrotum	0

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