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Assessment of the patients suffering from hydrocele in IGIMS, Patna

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Abstract
Hydrocele is one of the commonest diseases occurring worldwide. Since olden days surgical procedures have been described for the treatment of hydrocele. The surgical procedures commonly used for the treatment of hydrocele is the radical operation in which the parietal layer of the tunica vaginalis is completely removed and its cut edges are sutured posteriorly. Hence the present study was planned to assess the clinical profile of the Hydrocele in the patients referred to the IGIMS Patna.
The present study was planned on the 25 patients diagnosed with the Hydrocele in General Surgery Dept, IGIMS, Patna from Jun 2008 to Nov 2008. In all the cases, routine investigations were done which included hemogram, random blood sugar, blood for TC, DC, ESR, scrotal ultrasound.
The data generated from the present study suggest that the diagnosis and treatment of hydrocele are relatively simple and less complicated the number of patients with hydrocele is high in communities. The social stigma, ignorance, poverty, lack of awareness and lack of health care facilities in areas are the common causes of late presentation. Hence awareness about hydrocele should be spread among the rural populations and they should be encouraged to avail early medical attention.

Keywords: hydrocele, scrotal swelling, testis, clinical feature

Introduction
Hydrocele is a condition wherein watery fluid accumulates around the testicles. This leads to the swelling of the scrotum. While there is no pain associated with it, the person may experience mild discomfort besides an ungainly body image. Hydroceles are most common in new born male infants but can also occur later in life at any age. A hydrocele testis is an accumulation of clear fluid in the tunica vaginalis, the most internal of membranes containing a testicle. A primary hydrocele causes a painless enlargement in the scrotum on the affected side and is thought to be due to the defective absorption of fluid secreted between the two layers of the tunica vaginalis (investing membrane). A secondary hydrocele is secondary to either inflammation or a neoplasm in the testis. A hydrocele usually occurs on one side, but can also affect both sides. The accumulation can be a marker of physical trauma, infection, tumor or varicocele surgery [1], but the cause is generally unknown. Indirect inguinal hernia indicates increased risk of hydrocele. A hydrocele is normally seen in infant boys, as an enlarged scrotum. In infant girls, it appears as enlarged labia. However, hydroceles are more common in boys than girls.
Some babies are born with a hydrocele. Hydroceles are very common in babies. When babies develop in the womb (uterus), the testicles (testes) move from the abdomen to the scrotum. Sometimes the passage which allows this to happen does not close completely. This may then lead to a hydrocele developing. Hydroceles can sometimes be associated with a hernia. Premature babies have a higher risk to develop Hydrocele. In older children a hydrocele may have other causes such as injury, torsion of the testis or nephrotic syndrome. If Hydrocele shows up in adult life, it is typically a result of groin related surgery or a physical injury. Sometimes, inflammation or infection (epididymitis) in the testicles can also be the cause. Older males have a higher propensity. Hydrocele may also surface along with testicle cancer in rare cases. There are two types of Hydroceles – communicating hydroceles have the fluid flow in and out around the testicles while non communicating hydroceles occur when the body does not absorb the fluid away from the sac surrounding the testicles.
A hydrocele feels like a small fluid-filled balloon inside the scrotum. It is smooth, and is mainly in front of the testis. Hydroceles vary greatly in size and are typically painless and harmless. However, as the fluid continues to accumulate and the scrotum further enlarges, more discomfort can be expected. Large hydroceles will cause discomfort because of their size. Sometimes pain can be in both testicles as pressure from the enlarged area puts pressure against the unaffected area which can cause discomfort to the normal testicle. It has also been found to decrease a man's sex drive and makes him less active for fear of enlarging the mass. As the fluid of a hydrocele is transparent, light shone through the hydrocelic region will be visible from the other side. This phenomenon is called transillumination.
Symptoms of a hydrocele can easily be distinguished from testicular cancer, as a hydrocele is soft and fluid-filled, whereas testicular cancer feels hard and rough. During embryogenesis, the testis descends through the inguinal canal, drawing a diverticulum of peritoneum into the scrotum as it descends. This peritoneal tissue is known as the processus vaginalis. Normally, the communication between the processus vaginalis and the peritoneum is obliterated, and the tunica vaginalis is the tissue that remains overlying the testis

and the epididymis. Congenital hydrocele results when the processus vaginalis remains patent, allowing fluid from the peritoneum to accumulate in the scrotum. Through diagnostic ultrasound the accumulation of fluids can be diagnosed correctly. The fluid accumulation can be drained by aspiration, but this may be only temporary. A more permanent alternative is a surgical procedure, generally, an outpatient ambulatory (same-day) procedure, called a hydrocelectomy. There are two surgical techniques available for hydrocelectomy.

Hydrocelectomy with Excision of the Hydrocele Sac: Incision of the hydrocele sac after complete mobilization of the hydrocele. Partial resection of the hydrocele sac, leaving a margin of 1–2 cm. Care is taken not to injure testicular vessels, epididymis or ductus deferens. The edge of the hydrocele sac is oversewn for hemostasis (von Bergmann's technique) or the edges are sewn together behind the spermatic cord (Winkelmann's or Jaboulay's technique). Hydrocele surgery with excision of the hydrocele sac is useful for large or thick-walled hydroceles and multilocular hydroceles.

Hydrocele Surgery with Plication of the Hydrocele Sac: The hydrocele is opened with a small skin incision without further preparation. The hydrocele sac is reduced (plicated) by suture Hydrocele surgery: Lord's technique. The plication technique is suitable for medium-sized and thin-walled hydroceles. The advantage of the plication technique is the minimized dissection with a reduced complication rate [2].

If the hydrocele is not surgically removed, it may continue to grow. The hydrocele fluid can be aspirated. This procedure can be done in a urologist's office or clinic and is less invasive but, recurrence rates are high [3]. Sclerotherapy, the injection of a solution following aspiration of the hydrocele fluid may increase success rates [4]. In many patients, the procedure of aspiration and sclerotherapy is repeated as the hydrocele recurs [5].

Hydrocele is one of the commonest diseases occurring worldwide. Since olden days surgical procedures have been described for the treatment of hydrocele. The surgical procedures commonly used for the treatment of hydrocele is the radical operation in which the parietal layer of the tunica vaginalis is completely removed and its cut edges are sutured posteriorly. Hence the present study was planned to assess the clinical profile of the Hydrocele in the patients referred to the IGIMS Patna.

Methodology

The present study was planned on the 25 patients diagnosed with the Hydrocele in General Surgery Dept, IGIMS, Patna from Jun 2008 to Nov 2008. In all the cases, routine investigations were done which included hemogram, random blood sugar, blood for TC, DC, ESR, scrotal ultrasound.

All the patients were informed consents. The aim and the objective of the present study were conveyed to them.

Following was the inclusion and exclusion criteria for the present study.

Inclusion criteria: Patients with Solitary selling in the scrotum incorporating the testis; The swelling should be positive for transillumination; It should be possible to get above the swelling at the base of the scrotum.

Exclusion criteria: Swelling arising from the skin of the scrotum; Solitary swelling in the scrotum which is separate from the testis; Diffuse swelling in the scrotum incorporating the testis but negative on trans-illumination; Swelling in which there was associated impulse on coughing and reducibility.

Results & Discussion

The scrotal swellings are one of the common problems in all age group and are commonly encountered in surgery OPD. Swellings of scrotum affect the physical well being of the patient and present with varied etiology. Since scrotum is placed outside the lower abdomen they are easily noticed by the patient himself and are also easily accessible for clinical examination by the treating doctor. Most of the scrotal swellings are cystic and the spectrum of disease consists of hydrocoele (commonest cause), haematocoele, pyocoele, chylocoele, spermatocoele, epididymal cysts and sebaceous cysts.

The hydrocele recurrence rates vary among studies [6-7] using different sample sizes, different criteria for recurrence, the type of the study (prospective or retrospective), degree of thickness of the hydrocele sac, the chosen surgical technique, different inclusion and exclusion criteria, different backgrounds of the health personnel involved and follow up periods. As a consequence, it is not easy to make accurate comparisons across studies.

Table 1: Age distribution of patients with scrotal swellings

Age (years)	No. of cases
< 10	0
10-20	1
21-30	4
31-40	7
41-50	8
51-60	3
>60	2
Total	25

Table 2: Presenting features

Presenting features	No. of cases
Scrotal swelling	18
Scrotal swelling + pain	5
Pain alone (occasional/on exertion)	2
Total	25

Table 3: Duration of symptoms

Duration	No. of Cases
0 to 6 months	4
7 to 12 months	3
1 to 2 years	8
2 to 5 years	6
>5 years	4
Total	25

Table 4: Etiology of scrotal swellings

Etiology	No. of Cases
Primary vaginal hydrocele (PVH)	20
Spermatocele /epididymal cyst	2
Sebaceous cyst	2
Haematocoele/pyocele /chylocele (negative transillumination test)	1
Total	25

Ultrasonogram can be used to easily differentiate between encysted hydrocele and funicular hydrocele if one looks closely at the internal inguinal ring. Encysted hydrocele manifests as a loculated collection above the testis with a closed internal inguinal ring. Funicular hydrocele appears as an anechoic collection separated from the testis inferiorly but communicates with peritoneal cavity at the internal inguinal ring [8]. Clinically, it should be differentiated from incarcerated inguinal hernia, inguinal lymphadenopathy, undescended testis and spermatic cord lipoma, which will help in avoiding unnecessary invasive procedures [9]. The diagnosis in the present case report was made easy as the patient was clinically stable at the time of presentation, and clinical and radiological examination also aided to an early diagnosis and intervention.

Maximum numbers of patients were seen in the age group of 30 – 50 years with almost equal number of cases seen in most of the occupations indicating that hydrocele does not have any predilection for an occupation. Most of the patients presented within 6 months of development of hydrocele, with a scrotal swelling and a few had pain and heaviness, some of them had difficulty in walking and sexual act. Right sided hydroceles were more common. The average post-operative stay after was Lord's plication 6 days with no gross difference in the average hospital stay whether the hydrocele was unilateral or bilateral but post- operative pain was more in bilateral hydrocele while wound infection and skin oedema were more common in unilateral hydrocele, possibly due to larger size of unilateral hydrocele. There was no incidence of hematoma or recurrence after Lord's plication.

Campbell study and Dandapat MC *et al*. study, hydrocele occurs more commonly on the right side than on the left side.5,6 It can be concluded that the hydrocele has predilection to affect the right side than the left side. But there is no explanation why this predilection to right side. The average number of days of post-operative stay after the two types of operation, the duration of stay was comparatively less with Lord's plication as compared to Jaboulay's procedure.

Conclusion

The data generated from the present study suggest that the diagnosis and treatment of hydrocele are relatively simple and less complicated the number of patients with hydrocele is high in communities. The social stigma, ignorance, poverty, lack of awareness and lack of health care facilities in areas are the common causes of late presentation. Hence awareness about hydrocele should be spread among the rural populations and they should be encouraged to avail early medical attention.

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