

Minimally Invasive Surgery and Hydrocele in Hyderabad

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Citation: Patel P (2022) Minimally Invasive Surgery: Hydrocele and Hydrocelectomy Recovery. J Uni Sur, Vol. 10 No. 12: 81.

Abstract

Hydrocele of the spermatic cord is a rare anomaly which occurs when closure of processus vaginalis was hampered. There are two variations of a spermatic cord hydrocele: the encysted variety that does not communicate with the peritoneal cavity and the funicular variety that communicates with the peritoneal cavity. This case report depicts the clinical investigation and management of a rare case of encysted spermatic cord hydrocele in a 3-year-old boy. Surgery is indicated if no communicating scrotal hydrocele does not resolve by 12–18 months of age or if it becomes larger in size. A hydrocelectomy is a surgical procedure to repair a hydrocele, which is a build-up of fluid around a testicle. Often a hydrocele will resolve itself without treatment. However, as a hydrocele grows larger, it can cause swelling, pain, and discomfort in the scrotum and may need surgical repair. A hydrocelectomy removes the fluid and shrinks the size of the sac formerly containing the fluid. Symptomatic hydroceles are commonly treated with surgical repair. They are associated with sexual dysfunction in the aging male. Patients who are not fit for surgery often undergo aspiration and sclerotherapy of the hydrocele. There is a range of sclerosing agents used in the literature. I performed a literature search to assess whether one sclerosant was better than the others.

Received: 02-Dec-2022, Manuscript No. IPJUS-22-13303; **Editor assigned:** 05-Dec-2022, Pre-qc No. IPJUS-22-13303 (PQ); **Reviewed:** 19-Dec-2022, QC No. IPJUS-22-13303; **Revised:** 23-Dec-2022, Manuscript No. IPJUS-22-13303 (R); **Published:** 31-Dec-2022, DOI: 10.36648/2254-6758.22.12.81

Introduction

A hydrocele is an abnormal collection of serous fluid between the two layers of tunica vaginalis of testis. It can either be congenital or acquired. Hydrocele of the spermatic cord is a rare anomaly which occurs when closure of processus vaginalis was hampered. This condition usually presented as a firm, slightly mobile lump in the inguinal region which extends toward the scrotum [1]. There are two variations of a spermatic cord hydrocele - the encysted variety that does not communicate with the peritoneal cavity, and the funicular variety that communicates with the peritoneal cavity. The encysted type should be differentiated with inguinal hernia, inguinal lymphadenopathy, undescended testis, and spermatic cord lipoma. Confirmation of diagnosis is made with the help of ultrasonography findings or can be done intraoperative. This case report depicts the clinical investigation and management of a rare case of encysted spermatic cord hydrocele in a 3-year-old boy.

Congenital hydrocele results from failure of processus vaginalis

to obliterate [2]. During development, the testes are formed retroperitoneal 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. Hydroceles can cause symptoms at any age. In an aging male, they can often cause sexual dysfunction as well. Erectile dysfunction is also more prevalent in this group of men and therefore it is important to treat the condition to improve their overall sexual health. Yu et al. found that treatment of comorbidities was essential to achieve good reproductive health [3].

Hydrocelectomy performed

Hydrocelectomy is typically an outpatient procedure. It usually

requires general Anesthesia, which means you'll be completely unconscious for the surgery. You'll have a tube inserted in your throat to regulate your breathing.

Before the surgery, you'll have an intravenous line put in your arm to provide fluids and any medication required. In a standard hydrocelectomy, the surgeon makes a small incision in the scrotum and uses suction to drain the hydrocele [4].

The repair can also be done as a minimally invasive procedure using a laparoscope, a tube with a tiny camera at the end. It allows the surgeon to see the inside of the scrotum on an external video monitor. Small instruments can be inserted through the "keyhole" incision to perform the repair [5].

Recovery of Hydrocelectomy

A hydrocelectomy normally takes around a half-hour. You can usually go home the same day. You'll need someone to drive you home. The doctor may install a small tube in your scrotum to allow fluids to drain.

Immediately following surgery, you'll be taken to a recovery room for observation until it's safe for you to go home. If you had general anesthesia, you may feel sedated and nauseated, and your throat may be sore from the breathing tube.

You'll schedule a follow-up appointment in a few weeks so your doctor can check for proper healing and possible signs of infection or other complications [6].

At home, expect swelling and soreness for a few days. During this time, your scrotum will be bandaged. Using a jockstrap to support your scrotum reduces discomfort.

For the first few days, apply cold packs for 10 to 15 minutes at a time to reduce swelling and pain. Learn how to make your own cold compress at home. You can shower if the bandaged area is covered to prevent it from being soaked. Don't take baths, swim, or sit in a hot tub until the wound heals. Your scrotum may remain swollen for up to a month [7].

Discussion

Hydrocelectomy dates from remote antiquity. The procedures employed have been devised and modified over the years resulting in a multiplicity of techniques with many variations and modifications of the original methods. It is generally believed that the pathogenesis of acquired hydroceles, irrespective of the etiology, is an unbalanced process between transudate

production and absorptive activity of the tunica vaginalis parietal lymphatic. Thus, the rationale for open hydrocelectomy is to expose, permanently, the hydrocele fluid to an absorbing surface. The mechanism of generating hydrocele has been considered to be the same in all acquired hydroceles and the etiology, per se, has not been considered when choosing the surgical approach. Fundamental factors influencing the choice of surgical procedure are efficacy, simplicity, safety, and, cost-effectiveness of the treatment. In addition to the surgeon's preference, the size of the hydrocele and the thickness of its sac wall have been considered elements that could be taken into account when deciding which technique to choose [8].

The hydrocele recurrence rates vary among studies 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 [9]. As a consequence, it is not easy to make accurate comparisons across studies.

Conclusion

Hydrocele of the spermatic cord usually presented as a firm, slightly mobile lump in the inguinal region which extends toward the scrotum. Conservative treatment may be reserved for infants with an encysted variety, as it usually resolves in 12 months. Surgery is indicated if no communicating scrotal hydrocele does not resolve by 12–18 months of age or if it becomes larger. This review shows that STDS has a stronger evidence base behind it in the literature than the other sclerosants [10]. Braslis and Moss cocktail of 1 ml 1% lignocaine with 10 ml STDS for hydroceles greater than 50 ml on balance is the most effective formula as it has few side effects. This has a 76% cure rate after a single treatment 94% after multiple treatments. Stattin et al. showed long-term satisfaction at 40 months of treatment with STDS was 95%. Complications from this were low compared to other scleroses. The main complication associated with aspiration and sclerotherapy was pain and this was less common with STDS. Other complications including haematoma and infection were rare. Surgical treatment does have better long-term outcomes than aspiration and sclerotherapy but this literature review has shown a roll over and above just patients who are not fit for a general anaesthetic who need treatment for their hydrocele. With scarce health resources greater consideration should be given to aspiration and sclerotherapy.

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