Case Report

Giant Communicating Hydrocele in a 36-Year-Old Nigerian Man

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Abstract

Hydrocele can be defined as an abnormal collection of fluid within the tunica vaginalis of the scrotum or along the spermatic cord. Giant hydroceles contain over 1 L of fluid and are rare. Communicating hydrocele, which occurs due to abnormal persistence of patency of the processus vaginalis (PV), is usually found in infants. This patency has been known to persist in some adults usually giving rise to an indirect inguinal hernia if symptomatic. Very rarely may also be a cause of hydrocele in adults. We managed a 36-year-old man who had a recurrent left scrotal swelling. High ligation of the left patent PV was done and 1.1 L of scrotal fluid collection drained. Giant hydrocele from communicating hydrocele is very rare. A communicating hydrocele should be considered as a differential diagnosis in an adult who develops a recurrence following open drainage of a hydrocele. Health education and improvements in standards of living will prevent communicating hydrocele from developing into giant hydrocele.

Keywords: Communicating hydrocele, giant hydrocele, patent processus vaginalis, scrotal swelling

Introduction

Hydrocele is a common cause of scrotal swelling in urological practice. A hydrocele is an abnormal fluid collection within the tunica vaginalis of the scrotum or along a patent processus vaginalis (PV).[1] These fluid collections may represent persistent developmental connections along the spermatic cord or an imbalance of fluid production versus absorption.[2] Giant hydroceles are rare and contain >1 L of fluid.[3] The testes develop retroperitoneally in the abdomen and descend via the inguinal canal to the scrotum. It carries along a fold of the peritoneum known as the PV. Normally the proximal portion of the PV gets obliterated while the distal part persists as the tunica vaginalis which covers the testes anteriorly, medially, and laterally. Hydrocele resulting from abnormal persistence of the PV can be of different types. (i) Communicating (Congenital) hydrocele: When the entire PV is patent and communicates with the peritoneal cavity. (ii) Infantile hydrocele: In this variety, the PV is obliterated at the deep inguinal ring and the distal portion remains patent and allows fluid accumulation. (iii) Encysted hydrocele of the cord: The middle portion of the PV remains patent with fluid in it while the proximal and distal parts become obliterated.[4] Communicating hydrocele and infantile hydrocele are usually found in infants while vaginal hydrocele tends to occur in adults between 30 and 60 years. An encysted hydrocele is usually seen in young adults.[1] Autopsy findings suggest the presence of patent PV in 80%–94% of infants and 15%–30% of adults.[5] Only 6% of persistent patent PV are clinically apparent after the newborn period.[4] Persistent patency of all or a portion of the PV within the inguinal canal may, but does not always, result in asymptomatic hernia or hydrocele.[6] Communicating hydrocele usually closes spontaneously within the first 2 years of life.[7] Patent PV in adults when symptomatic usually presents with indirect inguinal hernia.[1,8] Recurrence of hydrocele may occur following treatment involving percutaneous aspiration and drainage but is uncommon following open drainage by hydrocelectomy.[9]

We present a 36-year-old man with recurrent left-sided hydrocele who was seen after 2 previous attempts at open drainage by hydrocelectomy via scrotal approach. He

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subsequently had a combined groin and scrotal approach operative intervention at our center which was curative. Management and operative findings are emphasized.

Case Presentation

A 36-year-old man was seen at our unit with a recurrent left scrotal swelling. He confirmed the swelling had been present since early childhood as far back as he could remember. The swelling was noticed to fluctuate in size and reduces after lying supine. He had no lower urinary tract symptoms or associated abdominal swelling. Medical consultation was delayed till he was 20 years of age due to superstitious beliefs. He then had hydrocelectomy via a scrotal approach. He had a repeat scrotal operation 4 years later on account of a recurrence. At the presentation in our centre, he was Found to have had a huge left hemi-scrotal swelling 22 cm × 18 cm × 8 cm [Figure 1]. There were two transverse (incision) scars at the anterior surface of the skin over the swelling. Swelling had no visible or palpable cough impulse, one could get above it. It was non-tender, firm, and fluctuant; the ipsilateral testis could not be palpated. There was no abdominal mass. The right testis was palpable and felt normal. A clinical diagnosis of a left-sided recurrent communicating hydrocele was made. A scrotal ultrasound scan revealed left hemi-scrotal sac filled with hypoechoic collection (with low-level echoes) anteriorly and hyperechoic collection posteriorly which has some solid components and a focal area of calcification. The left testis and epididymis were not seen separately. A focal area of thickening was noted along the ipsilateral anterior scrotal wall. The right testis appeared normal. Complete blood count and serum chemistry were within the normal limits. Operative findings were a patent ipsilateral PV, 1.1 L of brownish scrotal collection within a thickened walled cyst; multiple brownish granules within the collection; multiple intra-scrotal adhesions; and the left testis was not seen. The patent PV was ligated at the deep ring via a left groin incision. The scrotal collection was drained via a median raphe scrotal incision. Redundant scrotal skin and subcutaneous tissue were excised and scrotum refashioned. He was discharged after 6 days of observation.

Pathology report

The gross specimen consisted of cyst wall and skin with a total weight of 400 g measuring 18 cm × 13 cm × 7 cm. The cyst wall had a smooth lining that contained multiple pieces of greyish-brown friable material altogether measuring 8 cm × 6 cm × 2 cm. The testicular tissue was flattened and measured 3 cm × 3 cm. Cut section showed a golden yellow appearance. Microscopy showed a multilocular cyst containing deeply eosinophilic amorphous fluid with a thick fibromuscular wall and outer covering of skin tissue. Sections of the testis show features of atrophy. Features were said to be consistent with hydrocele. He was seen 30 months after the procedure with no recurrence [Figure 2].

Discussion

A giant hydrocele defined as one with fluid content over 1 L may be challenging to diagnose clinically except by ultrasound or intra-operative measurement of drained fluid. Furthermore, a giant hydrocele in a child may not contain up to 1 L of fluid. Hence, Akpo has suggested defining a giant hydrocele as one which is equal to or bigger than the patient's head.[10]

Giant hydrocele due to its size adversely affects the quality of life. It affects sexual and psychosocial well-being. The productivity and wage-earning capacity of sufferers are not spared.[10] Giant hydroceles primarily occur due to neglect as a result of poverty and ignorance.[3,10] Cases of giant hydrocele due to congenital (communicating) hydrocele reported in the literature are very scant to our knowledge. Most of the reported cases of giant hydrocele in literature have been due to vaginal hydrocele or abdomino-scrotal hydrocele. Testicular atrophy is a known complication of giant hydrocele.[10] The index patient was not spared this complication and this contributed to the inadvertent left orchidectomy. However, he expressed much gratitude following the procedure and had a boost of self-confidence which was maintained till the most recent time he was seen.

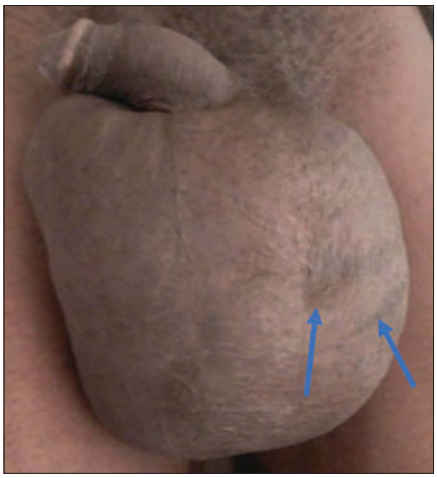

Figure 1: Preoperative picture with arrows pointing to the previous scrotal sac scars

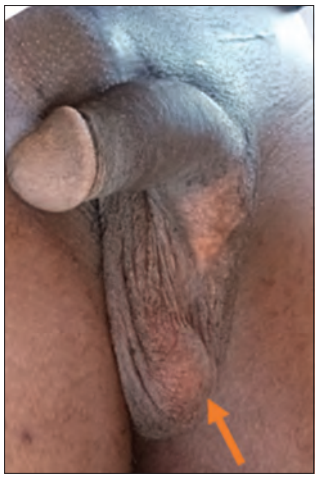

Figure 2: 30-months postoperation with arrow pointing to the solitary right testis

Other complications that have been seen in giant hydrocele include pressure necrosis with wound infection, septicemia, hematocele, calcification of the sac, calculus formation, and infertility.[10]

The cause of recurrence in this index case was a missed diagnosis. More attention to detailed history taking would have made much difference and saved the patient from 2 unnecessary scrotal operations. The delay in the first presentation by the patient at 20 years of age may have been a factor in his condition not been correctly diagnosed since communicating hydrocele is typically found in infants. Recurrence following open drainage of a hydrocele can occur even in noncommunicating hydrocele from inadequate excision of the hydrocele sac. The presence of primary or secondary malignancy within the scrotum and its contents could also cause recurrent fluid collection. These were not the causes in the index patient.

Conclusion

A giant communicating hydrocele is very rare. Health education and improvements in standards of living will make for early diagnosis and treatment of communicating hydrocele in infancy before hydrocele of such enormous proportions develop. Communicating hydrocele should be suspected in an adult with hydrocele who has a recurrence after open drainage.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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