



ORIGINAL RESEARCH PAPER

General Surgery

A CASE OF HEMATOCELE MIMICKING TESTICULAR MALIGNANCY

KEY WORDS:

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ABSTRACT

Hematoceles are usually associated with a history of scrotal trauma, are usually painful and rarely have an idiopathic origin. We describe the peculiar case of a hematocele mistaken for a testicular cancer. It is a case of 70-year-old male with no significant history of trauma with complaints of testicular swelling for 18 months presented to hospital. Ultrasound and High-dose contrast-enhanced computed tomography were unable to rule out malignancy hence proceeded with inguinal orchidectomy. MRI and ultrasound may help in diagnosis but final diagnosis is confirmed by histological analysis. Blood evacuation or orchidectomy include the management of this condition.

INTRODUCTION

The term "hematocele" refers to a buildup of blood between the parietal and visceral layers of the tunica vaginalis that causes scrotal swelling or enlargement. This might be a primary or idiopathic condition with no prior history of injury or discomfort, or it could be a secondary hematoceles that develops often as a result of direct scrotal trauma, torsion, malignancy, or surgery.(Barale et al., 2015) They may, on occasion, develop as a result of vasculitis, haematological disease, bleeding disorders such haemophilia, or hypertension.

If they grow to be big, they may give rise to scrotal lumps that, on imaging scans, may resemble testicular tumours. Due to suspicion of malignancy in challenging preoperative diagnosis, high inguinal orchidectomy was performed.

They could be caused by a testis tumour, surgery, or trauma. Atherosclerosis, scurvy, diabetes, syphilis, and neoplasia all have a documented risk factor for the development of spontaneous hemocele.(Pascual Regueiro et al., 2003) Hematocele may also result from a number of inflammatory disorders of the epididymis, testicles, or tunica vaginalis.

Hematoceles often have an immediate start, scrotal discomfort, and a history of damage to the scrotum. It is considered that hematocele with modest onsets are related to asymptomatic trauma or infection and are more frequent in older people. Hematocele may, however, infrequently be idiopathic. Coagulation issues or vasculitis may result in non-traumatic secondary hematoceles.

Due to the possibility that its symptoms might be mistaken for cysts or neoplasms, hematocele is difficult to identify before surgery.(Cass & Luxenberg, 1988) Although sometimes imprecise for a conclusive diagnosis, ultrasonography is useful for screening.

The enhanced sensitivity of MRI, which enables a clear demonstration of blood content, may make it necessary for a diagnosis.(Jones & Bickle, 2013) Most cases of hemorrhagic hydrocele in the scrotum were linked to injury and managed conservatively. Hematocele of the spermatic cord is an incredibly uncommon symptom of this condition.

The hard and painless masses that originate from idiopathic chronic hematoceles are nonetheless likely to develop into calcified and fibrotic masses. Idiopathic hematoceles might

readily be confused with malignancy due to their clinical characteristics. If a diagnosis is in doubt, surgery may be required.(Babakri,2017)

Depending on the lesion's location and time of occurrence, hematocele manifests in different ways. There are many of them, such as an odd bulge, abrupt groyne discomfort, enlarged or stiffened testicles, and nausea. Most of the time, it seems painless.(Jerome & Cunningham1, n.d.) Testicular hematoceles are often linked to trauma, tumours, or surgery, as opposed to idiopathic or spontaneous hematoceles, which do not reveal a history of testicular cancer or prior trauma. Radiological procedures that may block the problematic veins or surgery are available as treatments.

Among males aged 15 to 45, it is one of the most prevalent cancers. Etiology is complex, including both genetic and environmental elements. One of the most treatable cancers is testicular cancer, which has a cure rate of up to 90% and a 5-year survival rate of >95%.(Jain et al.,2015b) Hematocele may cause the development of simulating testicular cancerous big, rigid scrotal lumps. To determine if it is a hematocele or testicular cancer, a histological investigation of the testis is thus carried out. Magnetic resonance imaging (MRI) is a modality for scrotal diseases and scrotal ultrasound (US) is the diagnostic tool.(Shields et al., 2019) However, both techniques cannot provide a diagnosis. Only after surgery and a histological analysis of the testis that was removed, as in our instance, is the pathology's nature revealed.

Case presentation:

A 70-year-old male with no significant history of trauma with complaints of testicular swelling for 18 months presented to hospital. Ultrasound and **High-dose contrast-enhanced computed tomography** were unable to rule out malignancy hence proceeded with inguinal orchidectomy. Alpha-Fetoprotein (AFP) Test, LDH and beta hcg levels were normal. HPE showed organizing hematocele. The final pathological diagnosis was confirmed after surgical intervention.

Gross anatomical showed a skin covered cystic structure measuring 19× 17×4cm. Exernal structure, focal yellowish exudates seen, cut surface -tunica albuginea thickened. Gray white flesh firm area noted in the lower pole with minimal amount of fat pad. Testis measuring 5× 4 ×3cm, cord structure measuring 13cm in length. Cut surface of testis-thickened tunica vaginalis with a cavity filled with brown material made out. Gritty to cut.



Figure 1: Three figures of measurement of gross anatomical length of swelled testis.

Microscopic section studies shows testicular parenchyma with seminiferous tubules exhibiting hypospermatogenesis and hyalinisation. Interstitium showed laying cell cluster, foci of fibrosis, inflammatory cell infiltrates, hyalinisation, focal calcification and congested blood vessels. Section studies from sac wall shows fibrocollagenous tissue, inflammatory cell infiltrates, histiocytes and congested blood vessels. Cord structure shows fibrocollagenous tissue and congested blood vessels. Orchidectomy was done as treatment.

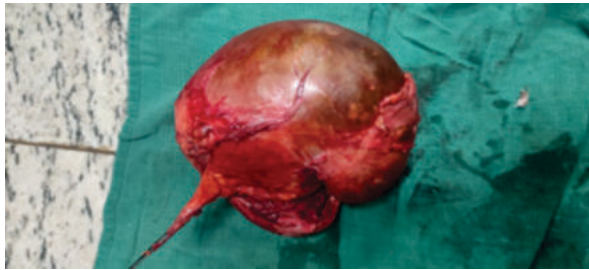


Figure 2: left testis separated by orchidectomy

DISCUSSION

Blood that builds up between the tunica vaginalis layers and may reach significant quantities is called a hematocele. There have only been 35 instances of chronic scrotal hematocele recorded in the literature to far. (Raza et al., 2015) Idiopathic and secondary hematoceles may be categorized based on their genesis. Idiopathic or spontaneous hematoceles tend to affect older people more often and don't have a history of testicular trauma or discomfort. (Jain et al., 2015a) Hematological changes or vasculitis may sometimes induce secondary hematoceles, which are often linked to trauma, surgery, or tumour. The cause of our patient's hematocele creation is unknown.

Clinically, hematocele manifests as a slowly growing, often non-tender, difficult-to-transilluminate scrotal lump. The swelling may last for a few months or for many years. Because its symptoms might resemble cysts or neoplasms, hematocele is difficult to detect before surgery. ematoceles show up as complicated cystic lesions on ultrasonography (U/S) with internal septations and loculations. (Shields et al., 2019) When an ultrasound diagnosis is unclear, magnetic resonance imaging (MRI) is helpful because it has a better sensitivity to detect encapsulated masses with high signal intensity in both T1 and T2 pictures. (Haddad et al., 1988) It cannot, however, consistently distinguish between benign and malignant disease.

When scrotal masses are present, whether painful or not, a clinical examination is crucial for the diagnosis of scrotal diseases. The differential diagnosis of a painless scrotal bulge, such as varicocele, hydrocele, and inguinal hernia, may be helped by the ultrasound. To rule out testicular cancer is the main objective. Surgery should be investigated by the doctor if cancer is suspected. (Haas et al., 1986)

history is often quite useful for the diagnosis. That is the situation with the hematocele, which is brought on by the buildup of blood in the vaginal sac, often as a result of trauma. (Tackett et al., 1986) Hematoceles are very seldom caused by idiopathic or spontaneous bleeding, particularly in older people. 1 A gradual, painless scrotal enlargement and sluggish blood buildup in the vaginal sac. Vasculitis or coagulation problems may potentially result in this non-traumatic hematocele. A hard, scrotal lump that may grow to astonishing size is caused by organised blood clots in the vaginal sac. (Shamsa et al., 2002)

Chronic scrotal hematocele's slowly progressing nature, lack of discomfort, and morphological and radiological features make it difficult to distinguish the mass from testicular neoplasms. In most instances, the actual nature of the issue isn't known until the testis has been removed. Scrotal ultrasonography (US) is often the first imaging technique used to assess the scrotum; the sonographic image shows a heterogeneous mass with a cystic component, septation, and variable degrees of calcifications, which increases the likelihood that the mass is a testicular tumour. (Kitzing et al., 2016) Only sporadic case reports published here and there make up the majority of the world's literature on this illness.

A testicular or paratesticular tumour cannot be ruled out when using scrotal ultrasonography (US) as the diagnostic tool for scrotal diseases. The examination often reveals mixed heterogeneous masses with both solid and cystic components. Magnetic resonance imaging (MRI) is more specific but not diagnostic, and when MRI is performed for chronic hematoceles, it reveals encapsulated mass with high signal intensity in both T1 and T2 images. (Grimsby & Harrison, 2014) Cunningham (1983) found that septation is a consistent finding in both acute and chronic hematoceles. (Alshamsi et al., 2021)

In almost all of the documented instances, the kind of the pathology was first discovered after surgery and a histological review of the excised testis. Almost usually conducted surgical exploration and orchidectomy. The presence of a hematocele should be suspected given the swelling's protracted length and sluggish growth over many years, and even decades in some instances. Hematocele has a detrimental impact on the testicles, causing atrophy and even full disappearance. This is mostly due to the hematoma's long-term compression effect, however sometimes a hematocele infection overlaid on top of the compression further compounds the condition. Chronic scrotal hematocele seems to more often affect elderly people and develops gradually over many years or decades. (McAlister, 1991) Testicular germ cell cancers often affect younger people.

Histological analysis of the surgically excised mass is the diagnostic evidence of the condition's benign nature; generally, there are chronic inflammatory cells, primarily eosinophils and macrophages that are hemosiderin-loaded. (Kratzik et al., 1988)

Early detection and thorough hematoma evacuation are essential components of effective hematoceles therapy. This treatment prevents epididymo-orchitis abscess development, necrosis, and testicular compression since an unreabsorbed hematocele may ultimately become infected. A more drastic method including an inguinal incision is advised when the presence of malignancy is firmly suspected. Since the testis did not seem to be alive and the mass had a necrotic-hemorrhagic look, we opted against doing an intraoperative frozen-section investigation. (Milner & Blease, 1990) Frozen-section analysis is not perfect because widespread necrosis and bleeding might sometimes cause the pathologist to wait longer to make a diagnosis.

Long-lasting hematoceles are readily calcified and fibrotic,

transforming into hard, painless lumps. Given their clinical characteristics, idiopathic hematoceles may be mistaken for malignancy rather readily. There are very few reports of idiopathic, persistent haematoceles in the literature. (Karmazyn, 2010) Since testicular cancer could not be completely ruled out, orchifuniclectomy was virtually always done.

CONCLUSION

It can be concluded from case study that even in the absence of trauma, the differential diagnosis of a hard, painless scrotal lump should include the potential of a rare chronic hematocele. Although MRI may be a helpful diagnostic technique in the assessment of scrotal masses, it can also be deceptive at times, hence it is preferable to depend on clinical observations. Surgical examination is necessary when testicular cancer cannot be ruled out.

REFERENCES:

1. Alshamsi, H., Sarhan, O. M., Almatar, A., Ali, B. Al, Boqari, D., & Kawai, F. Al. (2021). Unusual Presentation, Relapse, and Metastasis of a Pediatric Testicular Yolk Sac Tumor: Case Report. *Urology*, 149, e40–e43. <https://doi.org/10.1016/j.urology.2020.10.014>
2. Babakri, M. M. (2017). Chronic scrotal hematocele: a rare entity and diagnostic dilemma. *Urology & Nephrology Open Access Journal, Volume 4*(Issue 5). <https://doi.org/10.15406/UNOAJ.2017.04.00142>
3. Barale, M., Oderda, M., Faletti, R., Falcone, M., Pisano, F., Marra, G., Cassenti, A., Delsedime, L., Pacchioni, D., & Gontero, P. (2015). The strange case of a hematocele mistaken for a neoplastic scrotal mass. *Canadian Urological Association Journal*, 9(3–4), E217. <https://doi.org/10.5489/CUAJ.2630>
4. Cass, A. S., & Luxenberg, M. (1988). Value of Early Operation in Blunt Testicular Contusion with Hematocele. *The Journal of Urology*, 139(4), 746–747. [https://doi.org/10.1016/S0022-5347\(17\)42620-6](https://doi.org/10.1016/S0022-5347(17)42620-6)
5. Grimsby, G. M., & Harrison, C. B. (2014). Ewing sarcoma of the scrotum. *Urology*, 83(6), 1407–1408. <https://doi.org/10.1016/j.urology.2014.03.002>
6. Haas, G. P., Shumaker, B. P., & Cerny, J. C. (1986). The high incidence of benign testicular tumors. *Journal of Urology*, 136(6), 1219–1220. [https://doi.org/10.1016/S0022-5347\(17\)45288-8](https://doi.org/10.1016/S0022-5347(17)45288-8)
7. Haddad, F. S., Manne, R. K., & Nathan, M. H. (1988). The pathological, ultrasonographic and computerized tomographic characteristics of chronic hematocele. *Journal of Urology*, 139(3), 594–595. [https://doi.org/10.1016/S0022-5347\(17\)42538-9](https://doi.org/10.1016/S0022-5347(17)42538-9)
8. Jain, S., Garg, R., & Sarangi, R. (2015a). Chronic hematocele of testis – A mimicker of tumor. *Current Medicine Research and Practice*, 5(2), 72–74. <https://doi.org/10.1016/J.CMRP.2015.03.003>
9. Jain, S., Garg, R., & Sarangi, R. (2015b). Chronic hematocele of testis – A mimicker of tumor. *Current Medicine Research and Practice*, 5(2), 72–74. <https://doi.org/10.1016/J.CMRP.2015.03.003>
10. Jerome, [], & Cunningham1, J. (n.d.). *Sonographic Findings in Clinically Unsuspected Acute and Chronic Scrotal Hematoceles*. Retrieved August 15, 2022, from www.ajronline.org
11. Jones, J., & Bickle, I. (2013). Scrotal haematocele. *Radiopaedia.Org*. <https://doi.org/10.53347/RID-26153>
12. Karmazyn, B. (2010). Scrotal Ultrasound. *Ultrasound Clinics*, 5(1), 61–74. <https://doi.org/10.1016/j.cult.2009.11.009>
13. Kitzing, Y. X., Prando, A., Varol, C., Karczmar, G. S., Maclean, F., & Oto, A. (2016). Benign conditions that mimic prostate carcinoma: MR imaging features with histopathologic correlation. *Radiographics*, 36(1), 162–175. <https://doi.org/10.1148/rg.2016150030>
14. Kratzik, C., Hainz, A., Kuber, W., Donner, G., Lunglmayr, G., Frick, J., & Schmöller, H. J. (1988). Sonographic appearance of benign intratesticular lesions. *European Urology*, 15(3–4), 196–199. <https://doi.org/10.1159/000473432>
15. McAlister, A. L. (1991). Population behavior change: A theory-based approach. *Journal of Public Health Policy*, 12(3), 345–361. <https://doi.org/10.2307/3342846>
16. Milner, S. J., & Blease, S. C. P. (1990). Does scrotal ultrasound reduce the need for orchidectomy in the clinically malignant testis? *British Journal of Radiology*, 63(748), 263–265. <https://doi.org/10.1259/0007-1285-63-748-263>
17. Pascual Regueiro, D., García de Jalón Martínez, A., Trivez Boned, M. A., Sancho Serrano, C., Gracia Montoliu, S., & Rioja Sanz, L. A. (2003). Infected giant idiopathic haematocele. *Actas Urológicas Españolas*, 27(8), 645–648. [https://doi.org/10.1016/S0210-4806\(03\)72989-1](https://doi.org/10.1016/S0210-4806(03)72989-1)
18. Raza, M. A., Popat, A., Shukla, A., & Agarwal, R. (2015). Paratesticular sarcoma mimicking as left sided traumatic hematocele: a case report. *Journal of Evolution of Medical and Dental Sciences*, 4(70), 12262–12267. <https://go.gale.com/ps/i.do?p=HRCA&sw=w&issn=22784748&v=2.1&it=r&id=GALE%7CA470559408&sid=google Scholar&linkaccess=fulltext>
19. Shamsa, A., Kadkhodayan, A., Feiz-zadeh, B., & Rasulian, H. (2002). Testicular hematocele mimicking a testicular tumor: A case report and review of literature: 25 years in renal transplantation. *Transplantation Proceedings*, 34(6), 2141–2142. [https://doi.org/10.1016/S0041-1345\(02\)02883-X](https://doi.org/10.1016/S0041-1345(02)02883-X)
20. Shields, L. B. E., FitzGibbon, T. M., Peppas, D. S., & Rosenberg, E. (2019). Bilateral inguinal lipoblastomas presenting as inguinal hernias. *Urology Case Reports*, 26. <https://doi.org/10.1016/j.eucr.2019.100961>
21. Tackett, R. E., Ling, D., Catalona, W. J., & Melson, G. L. (1986). High resolution sonography in diagnosing testicular neoplasms: Clinical significance of false positive scans. *Journal of Urology*, 135(3), 494–496. [https://doi.org/10.1016/S0022-5347\(17\)45702-8](https://doi.org/10.1016/S0022-5347(17)45702-8)