ISSN- O: 2458 - 868X, ISSN–P: 2458 – 8687
National Library of Medicine - ID: 101731606

International Journal of Medical Science and Innovative Research (IJMSIR)
IJMSIR : A Medical Publication Hub
Available Online at: www.ijmsir.com
Volume – 6, Issue – 3, May – 2021 , Page No. : 26 - 30

Segmental Testicular Infarction – A Case Report

[1]Dr. Sujoy Mani, JR-1 Radiodiagnosis, MGM Medical College and Hospital, Sector-1, Kamothe, Navi Mumbai-410209.

[2]Dr. Ojaswi Khandediya, JR-3 Radiodiagnosis, MGM Medical College and Hospital, Sector-1, Kamothe, Navi Mumbai-410209.

[3]Dr. Priti Kapoor, Head of Department Radiodiagnosis, MGM Medical College and Hospital, Sector-1, Kamothe, Navi Mumbai-410209

Corresponding Author: Dr. Sujoy Mani, JR-1 Radiodiagnosis, MGM Medical College and Hospital, Sector-1, Kamothe, Navi Mumbai-410209.

Citation this Article: Dr. Sujoy Mani, Dr. Ojaswi Khandediya, Dr. Priti Kapoor, "Segmental Testicular Infarction – A Case Report", IJMSIR- May - 2021, Vol – 6, Issue - 3, P. No. 26 – 30.

Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Segmental testicular infarction is a rare entity. The diagnosis is an important one to make in order to exclude testicular torsion. If a confident and definitive diagnosis of this condition can be made, conservative management can be done and radical surgery like orchidectomy can be avoided for the patient. The ultrasound features of segmental testicular infarction include a hypoechoic wedge-shaped focal area usually limited to one of the poles of the testis and on colour doppler this focal area is devoid of any vascularity.

In our case report a 60year old male presented with acute onset scrotal pain on the right side associated with swelling. The patient was an operated case of bilateral epididymal cysts 10 days prior to the onset of pain. An ultrasound was ordered for this patient. On imaging the testes, a hypoechoic wedge-shaped area was seen in the lower pole of the right testis without any colour flow on doppler imaging. The rest of the testicular parenchyma revealed normal vascularity. Keeping the clinical setting in mind, a confident diagnosis of segmental testicular infarction was made for this patient. The surgeons further followed a conservative approach rather than a radical orchidectomy as torsion was excluded.

Keywords: Segmental testicular infarction, Ultrasound, Funiculitis, Haematocele.

Introduction

Segmental testicular infarction is a relatively uncommon condition, in which imaging especially ultrasonography plays a huge role in the diagnosis. There are several conditions which give rise to this condition including iatrogenic causes like post-operative cases of scrotal pathologies, secondary to epididymo-orchitis, sickle-cell anaemia or even polycythaemia. [1]

The ultrasound picture of segmental testicular infarction usually shows a wedge-shaped hypoechoic area in the testicular parenchyma usually restricted to one pole, showing no vascularity on colour doppler. The rest of the testicular parenchyma shows normal colour flow.

This entity usually involves the second and fourth decades of life, however there are a few cases which have been reported in neonates as well. [2,3] The condition is important to differentiate from testicular torsion as patient usually presents with symptoms of acute-onset pain. The imaging features can occasionally be confused with that of a tumour having low flow on colour doppler, especially in cases in which the tumour is small. [4,5,6] The diagnosis of segmental testicular infarction is an important one to make as it can help in further surgical planning and help in avoiding a total orchidectomy in certain patients.

Case Report

A 60year old male patient, came for an ultrasonography of the scrotum with chief complaints of acute onset pain in the right scrotum. The patient had a swelling in the right scrotum. The patient was an operated case of bilateral epididymal cysts 10 days prior to the scan. The patient primary complaint was pain and swelling in the right scrotum and the scan had been ordered as there was suspicion of testicular torsion on the right side.

Ultrasound of the patient was performed using linear probe (7-12 Hz) using Philips HD 15 Ultrasound machine.

The right testis was bulky and showed a volume of 22cc which was markedly increased compared to the normal left side. On further scanning, the right testis showed a well-defined wedge-shaped hypoechoic area measuring 2.9 x 2.4 cm at the lower pole of the testis. On colour doppler, there was no evidence of vascularity noted in this hypoechoic area suggestive of segmental testicular infarction.

Moderate hydrocele was noted on the right side with evidence of internal echoes and thick septations likely representing a chronic haematocele.

The right epididymis appeared to be enlarged and diffusely hypoechoic with increased vascularity suggestive of epididymitis.

Bilateral spermatic cords were inflamed, oedematous and echogenic suggestive of bilateral funiculitis.

Figure 1 : Enlarged right testis noted with hypoechoic wedge-shaped area in lower pole

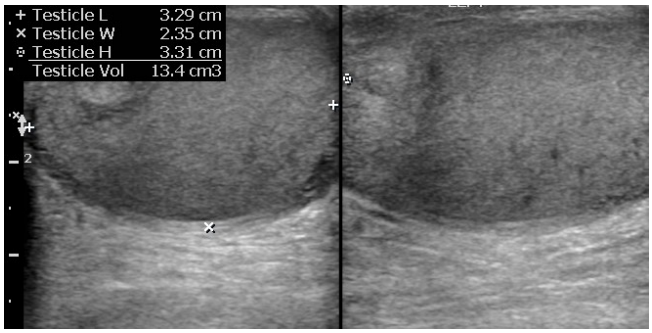

Figure 2: Normal Left testis showing normal size

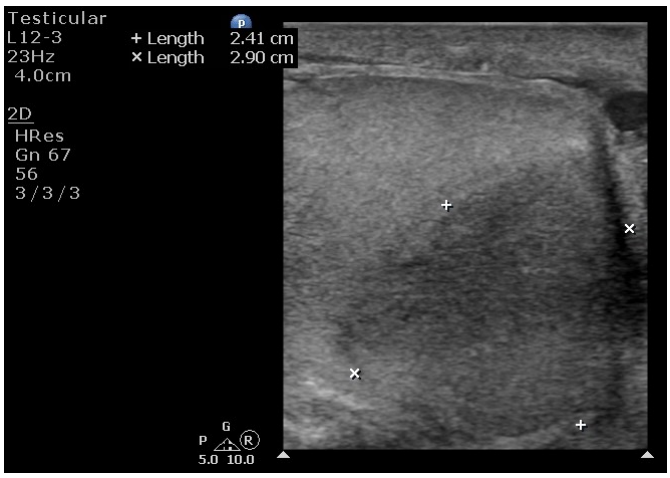

Figure 3: 2.9 x 2.4 cm size hypoechoic wedge-shaped area in lower pole of right testis

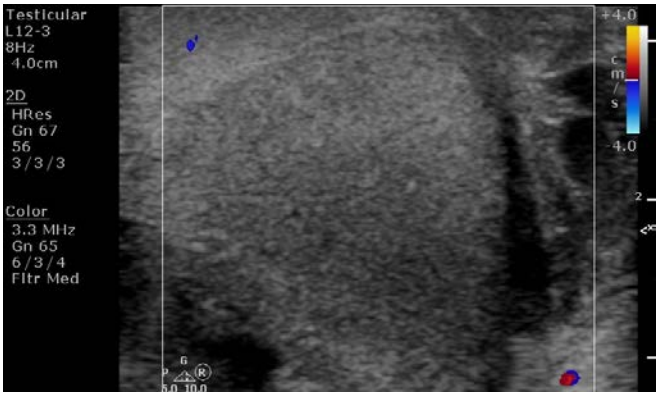

Figure 4: No vascularity is seen in the hypoechoic area in lower pole

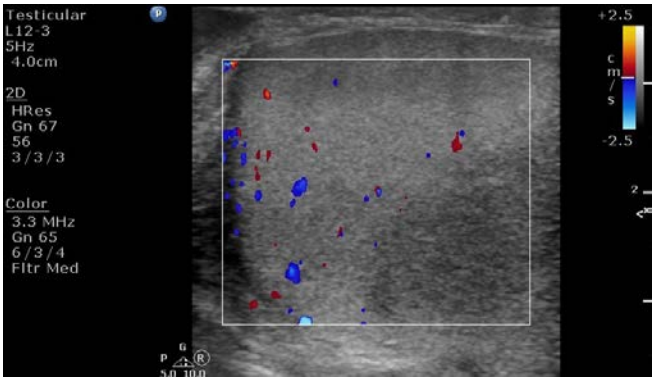

Figure 5: Image showing the rest of the testicular parenchyma showing normal color uptake

Figure 6: Moderate Hydrocele noted on the right with internal echoes and thick septations representing haematocele.

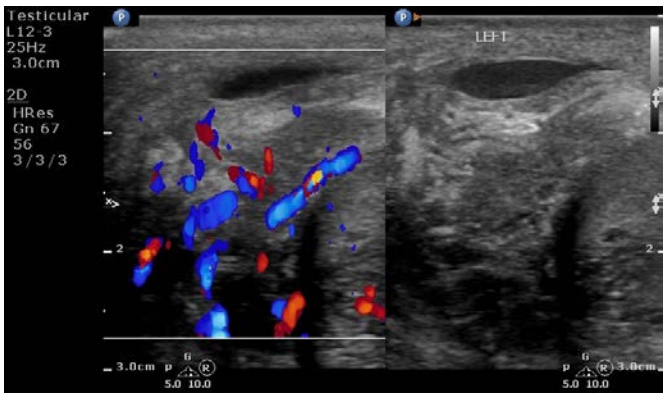

Figure 7 : Right sided epididymitis

Figure 8: Inflamed left spermatic cord suggestive of funiculitis

Discussion

Segmental testicular infarction is a process which causes partial ischaemia. In comparison to cases of infarction of the entire testicle, segmental testicular infarction is relatively rare and in majority cases an identifiable cause might not be detected. The commonest cause that has been described in literature is epididymo-orchitis.

The patho-physiology behind segmental testicular infarction is not entirely understood, however there are certain mechanisms that have been proposed for the same. The testicle has a triple arterial blood supply which includes the testicular artery, the cremasteric artery, and the artery of ductus deferens. The testicular artery arises from the abdominal aorta. In some men, a segmental area of the testicle can be considered an end organ functionally. When the blood flow through an

end artery is interrupted and there is insufficiency of collateral blood supply, an infarction will occur in these areas. This blood flow obstruction is mainly secondary to venous thrombosis.

The most common symptoms associated with segmental testicular infarction include acute scrotal pain and swelling. Sometimes the patient may come with some other symptoms or on a check post-op ultrasound of the scrotum, the segmental infarct maybe detected incidentally. Occasionally, abdominal pain may also be one of the symptoms.

Segmental testicular infarction is an important diagnosis to make in order to prevent radical surgical treatment. Another important dimension includes differentiation from a hypoechoic tumour which shows low vascularity. This is the closest differential diagnosis to a segmental testicular infarct. If a focal lesion is identified on ultrasound which shows evidence of markedly reduced vascularity as compared to the normal surrounding tissue, which shows no mass effect, nor any signs of infiltration of vascular structures, it is likely to be benign. However, in certain cases an exclusion of a hypo-vascular tumour with further evaluation has to be made.

In some cases, differentiation from a hypo-vascular tumour is difficult, in such cases an MRI can be performed accompanied with tumour markers to exclude a tumour. Once a definitive diagnosis of segmental testicular infarction is made, possibility of taking a conservative approach can be considered. When the diagnosis is still uncertain, sometimes these cases get managed by radical orchiectomy. In contrast to this some surgeons prefer surgical exploration and biopsy in cases of indeterminate lesions. Cases in which there is reassuring imaging features accompanied with negative tumour markers, a confident diagnosis of segmental testicular infarction can be made and conservative approach can be taken, hence avoiding radical surgery.

Conclusion

Segmental testicular infarction is a rare entity, however is an extremely important diagnosis to make. The role of the radiologist in making this diagnosis is key. In the right clinical setting, when a wedge-shaped hypoechoic region in the testicular parenchyma devoid of any vascularity on colour doppler is seen on ultrasound a diagnosis of segmental testicular infarction should be kept in mind. With the combination of ultrasound features, blood tests like tumour markers and MRI imaging, in most cases a hypo-vascular tumour can be excluded.

In conclusion, if a diagnosis of segmental testicular infarction is made a conservative approach can be followed and radical orchidectomy can be avoided.

References

1. Gofrit ON, Rund D, Shapiro A, Pappo O, Landau EH, Pode D. Segmental testicular infarction due to sickle cell disease. *J Urol* 1998; 160:835 –836.
2. Penson DF, Aronson WJ. Segmental testicular infarction in the neonate: a case report. *J Urol* 1995; 153:1992 –1993.
3. Shapiro SR, Rabinovitz J, Konrad P, Tesluk H. Focal infarction of the testicle in a child simulating testicular tumor. *J Urol* 1977; 118:485 –486.
4. Sriprasad S, Kooiman GG, Muir GH, Sidhu PS. Acute segmental testicular infarction: differentiation from tumour using high frequency colour Doppler ultrasound. *Br J Radiol* 2001; 74:965 –967.
5. Doebler RW, Norbut AM. Localized testicular infarction masquerading as a testicular neoplasm. *Urology* 1999; 54:366

6. Medina-Perez M, Sanchez-Gonzalez M. Testicular infarct simulating a neoplasm's [in Spanish]. *Arch Esp Urol* 1998; 51:186 –188