

Case report:

“Snow storm” testis

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Abstract

Testicular microlithiasis is an asymptomatic condition associated with calcification within the seminiferous tubule, natural history of which is not clearly known. Association with various testicular malignancies warrant regular follow up in patients with microlithiasis.

Keywords: Testicular microlithiasis, “Snow storm” testis; infertility

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Introduction

Testicular microlithiasis is an asymptomatic condition. Here we are presenting a case of testicular microlithiasis and discussing its clinical significance.

Case history

A 40 year old male presented to the OPD for the evaluation of infertility as per the treating gynaecologists advice. He is married for last 5 years but not having children. His past medical history was insignificant except for infertility. Their sexual history was normal. His physical examination was within normal limits. His semen analysis showed reduced count of 20 million spermatozoa/mL, 20% having normal morphology and 30% having progressive motility. Scrotal ultrasound (figure1&2) showed diffuse punctuate non-shadowing hyper-echoic foci scattered within the testicular parenchyma, suggestive of testicular microlithiasis.

Discussion

Testicular microlithiasis is an asymptomatic condition being recognised increasingly while doing ultrasonography of the scrotum for some other indications. It was first described by Priebe and Garret in 1970¹. Its incidence is about 0.5

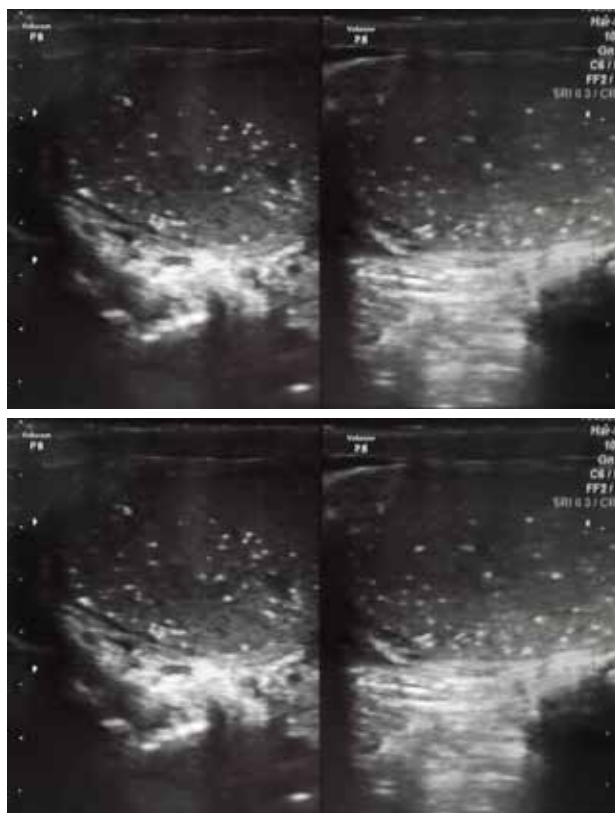


Figure1&2: Scrotal ultrasound- showing diffuse punctuate non-shadowing hyper-echoic foci scattered within the testicular parenchyma.

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-0.6% in the general population². But in patients with infertility it is seen up to 15% of cases³. It is a benign condition and the exact cause is not known. In ultrasound it is seen as 1 to 3 millimetres sized diffuse punctuate non-shadowing hyper-echoic foci scattered within the testicular parenchyma without posterior acoustic shadowing. And it is called “snow storm” appearance⁴. It is usually symmetrical in distribution. If there are more than 5 microliths seen in single ultrasound image it is called Classical Testicular Microlithiasis (CTM) and if it is less than 5 then it is called Limited Testicular Microlithiasis (LTM)⁵. Testicular microlithiasis is associated with various conditions like cryptorchidism, testicular malignancy, spermatic cord torsion, hypogonadism, infertility, Down syndrome, pseudohermaphroditism, Klinefelters syndrome, Neurofibromatosis and pulmonary alveolar micro calcification. Some studies showed that those who are having infertility and testicular microlithiasis, the degree of calcification adversely affect sperm function resulting in abnormal sperm migration test and sperm motility⁶.

The pathophysiology is the accumulation and eventual calcification of atrophic and degenerated cells in the tubules due to defective phagocytosis of degenerated intratubular debris by Sertoli cells as a result of abnormal gonadal embryogenesis⁷.

Degenerated intratubular cells form the calcified core of microlith, surrounded by outermost layer of cytoplasmic debris, vesicles, degenerated mitochondria and collagen fibres, intermediate layer of bundle of collagen fibres and the innermost layer of multiple lamellae.

Histological examination shows laminated eosinophilic calcification due to accumulation of cellular debris and deposition of glycoprotein in the lumen of seminiferous tubule. Based on histopathology Renshaw described two types-

laminated calcification and haematoxylin body⁸. Laminated calcification is common in patients with testicular malignancy, cryptorchidism and in normal individuals, whereas haematoxylin body is seen in testicular malignancy especially in pure embryonal and mixed tumours. Electron Microscope shows microliths measuring 30–90 micrometre diameter with central calcified zone surrounded by concentric layered collagen.

Natural history of this condition is not clearly known. Regular follow up is needed, in view of its association with various testicular malignancies. But the ideal follow-up schedule is still not clearly defined. Some experts recommend follow up with self examination, periodic physical examination, ultrasound and tumour markers, but some others recommend CT thorax and abdomen and testicular biopsy in addition to these^{9,10}.

In conclusion, Testicular microlithiasis is an asymptomatic condition. The typical ultrasonographic appearance is described as “snow storm” appearance. Because of its association with various testicular malignancies, regular follow up is indicated.

Ethical Clearance: This case report was submitted for publication after getting consent from the patient.

Conflict of interest: None declared

Authors’ Contributions:

Data gathering and idea owner of this study: Raveendran. A.V (RAV), Syed Mohammed Ismail (SMI)

Study design: RAV

Data gathering: RAV, SMI

Writing and submitting manuscript: RAV, Sajeeth Kumar K. G (SKG)

Editing and approval of final draft: RAV, SMI, SKG

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