

Tunica albuginea cyst presenting with milk of calcium

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Abstract Tunica albuginea cysts are rarely seen but are important and can be diagnosed easily with ultrasonography. Calcium milk is defined as the precipitation of calcium in a cyst or other fluid-containing structure and can be seen in many organs. In this case report, calcium milk seen in a tunica albuginea cyst is discussed.

Keywords: Calcium milk, testicular cyst, tunica albuginea cyst, ultrasonography

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INTRODUCTION

Although rarely seen, tunica albuginea cysts are the most common extratesticular benign masses. They are often confused with malignancy, but ultrasonography (US) is quite helpful in diagnosis.^[1] Calcium milk describes the collapse of the bottom of a cystic structure of calcium salts.^[2] The case is here reported of a patient with calcium milk in a tunica albuginea cyst, which was diagnosed with US.

CASE REPORT

A 28-year-old male patient was referred to our department for the scrotal US for infertility evaluation. Physical examination and laboratory findings were nonspecific. On US, the volume of both testicles was small for the patient's age. In the left scrotum, a 3-mm diameter tunica albuginea cyst was determined, and a hyperechogenic appearance with an acoustic shadow within the cyst was also detected [Figure 1a]. This hyperechogenic appearance was evaluated as milk of calcium. The US also showed varying cyst–calcium interfaces with the patient's position [Figure 1b].

DISCUSSION

Tunica albuginea cysts were first described by Frater in 1929.^[3] They are generally seen around 40 years of age, are 2–5 mm in size, may be unilocular or multilocular, and are usually located in the anterior or lateral of the testis. These cysts are thought to develop from mesothelial embryonic remains or from traumatized dilate efferent ductus.^[4]

Histologically, tunica albuginea cysts are simple cysts covered with cuboid or columnar cells in a capsule of fibrous connective tissue filled with translucent or dark protein fluid.^[5] On US, normal tunica albuginea appears as an echogenic line surrounding the testis. Cysts are typically seen on US with a well-defined, anechoic, rounded shape. Posterior acoustic enhancement is frequently observed. Sometimes, they can reach large sizes, in which case differential diagnosis from intratesticular cysts is needed.^[6] Cysts in the form of complex cysts with calcification on the wall have also been described in the literature.^[7]

Calcium milk is defined as the precipitation of calcium in a cyst or other liquid-containing structure, which may be

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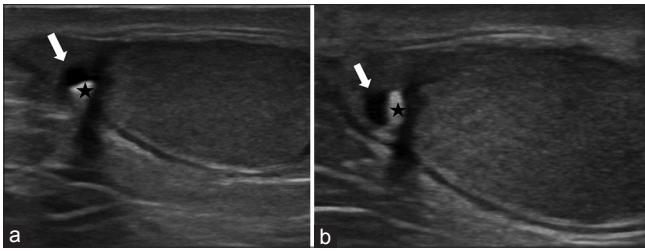


Figure 1: Ultrasonography images obtained when the patient was lying (a) and standing (b) showing tunica albuginea cyst (arrow) and a hyperechogenic appearance with an acoustic shadow within the cyst (asterisk)

associated with low-grade inflammation. Carbonate apatite consists of small crystals of hydroxyapatite or calcium carbonate. US is very important in diagnosis because it can show the movement of calcium milk in the cavities during the patient's position change.^[8]

Calcium milk is most common in the kidney and breast. In the renal cyst, it is possible to recognize the radiopacity in the supine position of the intravenous pyelograph because of its calyx shape, and on the images taken while standing, the leveling is diagnostic. On computed tomography, it also makes it possible to recognize the level of calcium in axial images. Calcium milk in the mammary gland shows linear levels in mediolateral oblique radiographs as oval rounded radiopacity in craniocaudal mammograms. The best method for identifying calcium milk is US because it is a dynamic examination and the leveling can be monitored in images taken in the supine position while standing on this count. It has been reported that calcium may be present in the blood, bile duct, gastrointestinal duplication cysts, calyceal diverticula, pyelogenic cysts, obstructed pelvicalyceal systems, ureterocele, bronchogenic cysts, adrenal cysts, and breast cysts.^[8,9] However, to best of our knowledge, there has been only one case report in literature of a case of tunica albuginea cyst presenting with calcium milk.^[10]

CONCLUSION

It is very important for correct diagnosis to know that, even if rarely, milk of calcium can be seen in tunica albuginea cysts.

Declaration of patient consent

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

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Conflicts of interest

There are no conflicts of interest.

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