Unilateral Undescended Testis with Microlithiasis in an Infant: A Rarity

Reddy Ravikanth[1]*, Pooja Majumdar[2]

[1]Department of Radiology, Holy Family Hospital, Thodupuzha, Kerala, India, [2]Department of Medicine, INHS Sanjivani, Ernakulam, India

Dear Editor,

A 12-month-old male infant was brought to the casualty with complaints of right testis not palpable in the scrotum. The child was born preterm at 34 weeks of gestational age. There were no other congenital anomalies and no family history of germ cell tumors. On examination, there was a right groin swelling with consistency similar to the testis. The left testis was palpable in the left scrotal sac [Figure 1]. A clinical diagnosis of undescended right testis was made. Owing to concerns of right-sided groin swelling, the infant was referred for scrotal ultrasound that revealed multiple foci of calcifications within the parenchyma of the right undescended testis which is consistent with microlithiasis [Figure 2]. Furthermore, the right testis was located at the deep inguinal ring above the mid-point of inguinal ligament. The testis was 0.65 cm × 1.3 cm × 1.4 cm in size and maintained internal vascularity. The child was referred to a pediatric surgeon for orchidopexy.

Testicular microlithiasis (TM) is a rare condition, which is noninvasively diagnosed by ultrasonography.[1] Incidence rate of TM is 3% in adult males and 0.04%–11.8% in prepubertal boys which are based on autopsy findings as TM is an incidental finding which goes undetected unless confronted by a pathological condition.[2] TM is a bilateral conditional; however, very few unilateral cases have been reported in literature. Intratubular calcifications within the seminiferous tubules result in the development of TM. TM has been associated with conditions such as cryptorchidism, male pseudohermaphroditism, malignancy, infertility, Down's syndrome, testicular atrophy, varicocele, hydrocele, torsion of testis, and its appendages.[3]

Ultrasonography is not only used for the assessment of the size and location of undescended testis but also could be

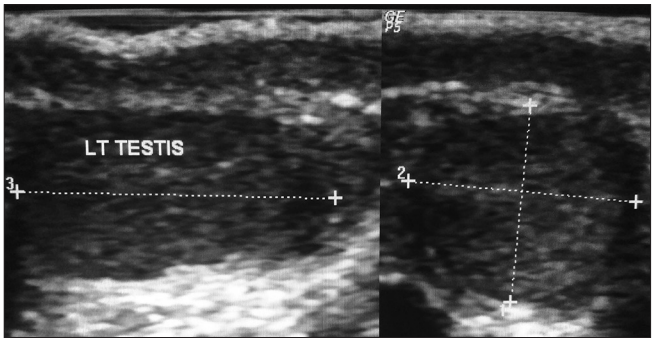

Figure 1: Ultrasonography image of the left testis indicating the normal position within the scrotal sac. Note the absence of microlithiasis

detecting other tumor or infection of the testes. However, ultrasonography is less reliable for locating abdominal testis. Magnetic resonance imaging (MRI) is a reliable investigation for locating intra-abdominal testes. TM is the result of calcium deposits within degenerated cells of seminiferous tubules. Ultrasonographic appearance of TM is characteristic punctate, nonshadowing hyperechoic foci, which are diffusely scattered within the testicular parenchyma.

A relationship of TM with testicular tumors, in particular, germ cell tumors, is controversial. The European Society of Urogenital Radiology advises annual ultrasound follow-up until age 55, only if a risk factor is present which include personal or family history of germ cell tumor, maldescent, orchidopexy, and testicular atrophy. The parents are encouraged to perform self-examination for the baby and scrotal ultrasound surveillance annually.[4] Orchidopexy is

Address for correspondence: Dr. Reddy Ravikanth, Department of Radiology, Holy Family Hospital, Thodupuzha - 685 605, India.
E-mail: ravikanthreddy06@gmail.com

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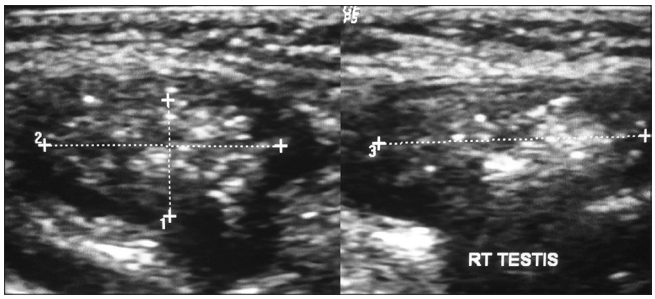

Figure 2: Ultrasonography image demonstrating multiple foci of calcifications consistent with microlithiasis within the right undescended testis located at the deep inguinal ring

creation of a subdartos pouch which currently is the mainstay surgical therapy for the palpable undescended testis. Timing of orchidopexy is important to reduce risk of testicular germ cell tumors in adult life as well as to prevent the impairment of spermatogenic function. The current recommendation for orchidopexy is between 6 and 12–18 months.[5]

TM warrants strict follow-up for cases with a positive family history of testicular malignancy, though TM *per se* is a benign condition.[6] In conclusion, TM is a rare condition and has association with testicular malignancy, infertility, and cryptorchidism. Follow-up ultrasonography is recommended in patients with microlithiasis and additional risk factors. Owing to the lack of clear guidelines for TM in cryptorchidism, we recommend regular follow-up with clinical examinations and yearly ultrasound examinations.

Declaration of patient consent

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

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Conflicts of interest

There are no conflicts of interest.

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