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Ultrasound aspects found in a newborn with an antenatal detected urinary anomaly

Otilia Fufezan[1], Simona Tătar[1], Simona Moisiuc[1], Ligia Blaga[2]

[1] III[rd] Pediatric Department, Cluj-Napoca, Romania
[2] Neonatology Department of the IInd Gynecology and Obstetrics Clinic, Cluj-Napoca, Romania

A female newborn with an antenatal detected urinary anomaly was referred for the first postnatal ultrasound exam at the age of four days. She presented a good clinical condition. First postnatal ultrasound revealed collecting systems dilatation, partial modified renal parenchyma and an abnormal aspect of the urinary bladder (fig 1). It was also analyzed the appearance of the urinary tract content. After a conservative therapy the ultrasound exam performed two weeks later revealed increased dilatation of the collecting system and a normal ultrasonographic aspect of the urinary tract content. Ultrasound appearance of the right kidney and the urinary bladder after therapy is presented in figure 2.

Questions:

1. What is the reno-urinary anomaly in this case?

2. Describe ultrasonographic findings in this type of urinary anomaly and mention other ultrasographic abnormality that could be detected on the first postnatal ultrasound examination of this newborn.

3. Specify a complication which represents an emergency in this situation.

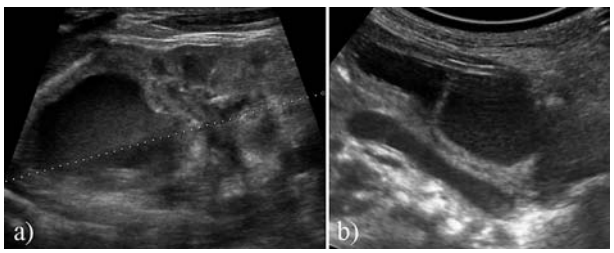


Fig 1. a) Right kidney in a longitudinal view (examination was performed with linear transducer); b) Urinary bladder: longitudinal view.

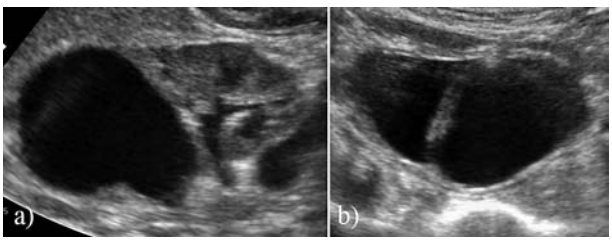


Fig 2. a) Longitudinal section on the right kidney after therapy; b) Urinary bladder in longitudinal section after therapy.

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Corresponding author: Otilia Fufezan
III[rd] Pediatric Deaprtment
2-4 Campeni str
450008, Cluj-Napoca, Romania
E-mail: otilia.fufezan@gmail.com

Answer QUIZ vol. 14, no. 3

The quadriceps tendon lesion

Carolina Botar Jid[1], Dan Vasilescu[1], Radu Onoe[2]

[1]Radiology Departement, „Iuliu Haţieganu" University of Medicine and Pharmacy Cluj-Napoca, Cluj-Napoca, Romania
[2]Artis 3 Clinic, Cluj-Napoca, Romania

Answers:

1. What is your ultrasonographic diagnosis?

The diagnosis is hemangioma of the left quadriceps tendon.

2. Which therapeutic approach would you propose?

The proper therapeutic approach was surgical excision of the tendinous lesion, with pathological exam, which confirm the diagnosis of hemangioma left quadriceps tendon.

3. What are the particular features of the case and the differential diagnosis?

The particular aspects of this case is the accidental discovery of the tumor, in an old male with clinical and conventional radiography signs of osteoarthritis. The ultrasound examination revealed a lesion with no clinical signs. This fact could be explain by deep intratendinous location, inaccessible to palpation. Another particularities of this case are the fact that this tumor rarely affect the male and rarely have this location.

Haemangiomas are common benign soft tissue tumours, comprising 7–10% of all soft tissue tumours [1]. Intramuscular haemangiomas make up 0.8% of all haemangiomas, without any specified location in tendinous part of the muscle [2]. Intramuscular haemangiomas are more common in the lower limbs (42–45%) [2,3]. The thigh is the most common intramuscular site (17–19%) [2,3]. Wild et al found the quadriceps to be affected in five out of 11 cases of intramuscular haemangioma [2].

Clinically, haemangiomas could present with pain (55%) and swelling, but it could be asymptomatic if is small and deep located [2,3].

Ultrasound may reveal a complex hypoechoic or heterogeneous mass, with acoustic shadowing in cases of calcifications [4]. Doppler ultrasound allows visualization of vessels in cases where the velocity of blood flow is large enough to be detected, but many cases present vessels too small to bee viewed. In our case bidimensional and Doopler ultrasound allowed visualization and characterization of tendon lesion.

Differential diagnosis is made with hemangioendothelioma, angiosarcoma, liposarcoma or malignant melanoma. Untreated lesions have limited growth potential with no malignant transformation [4].

There are multiple therapeutic options based on type, size and location: observation, systemic or intralesional steroids, pulsed dye laser, embolization or surgical excision [4]. In our case the treatment was the surgical removal with anatompathological analyze and the evolution was good evolution without injury recovery.

Ultrasound represents a fast and inexpensive imaging method that should be performed regularly to assessing changes in the adjacent soft tissue of the knee joint.

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