The added value of simultaneous palpation during scrotal ultrasound

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Sonography (US) is the preferred modality to evaluate the scrotum.[1] Guidelines of the American Institute of Ultrasound in Medicine state "if a palpable abnormality is the indication for the study, this area should be directly imaged."[2]

Further useful information can be obtained if scrotal palpation and US are combined. We reviewed the US findings in a series of 11 patients in whom the simultaneous performance of palpation and US of the scrotum helped identify and recognize the nature and position of small scrotal nodules.

When the lesion is not immediately recognized, we first ask the patient to indicate with a finger where the lesion is located; then, if this is not sufficient, we palpate the scrotum to locate the lesion, try to keep it between two fingers and then perform the US examination under palpation guidance by placing the transducer immediately above the palpated lesion.

A small mass was not visible on US examination in 5 of the 11 cases: two lesions were 3-mm cysts of the tunica albuginea, one was an 8-mm sebaceous cyst in the scrotal wall and two were adenomatoid tumors of the epididymis including a 7-mm one in the tail and a 9-mm lesion in the head.

The cysts of the tunica albuginea and the sebaceous cyst were overlooked because a superficial lesion was not considered. The adenomatoid tumor in the tail of the epididymis was "hidden" below the lower pole of the testis. The adenomatoid tumor in the head of the epididymis was adjacent to a palpable 17-mm cyst of the epididymis with an echogenicity similar to that of adjacent tissues. Because of its firmness, palpation allowed to differentiate it from the cyst and to place the transducer over it (Figure 1).

In six cases, palpation allowed to recognize lesions characteristics that helped for the diagnosis. One patient had a small cystic nodule at the testicular surface; palpation showed that it belonged to the tunica albuginea, as it was sliding with the testis on the parietal layer of the tunica vaginalis. Two had a 3-mm palpable testicular appendage. During palpation, it was possible to displace

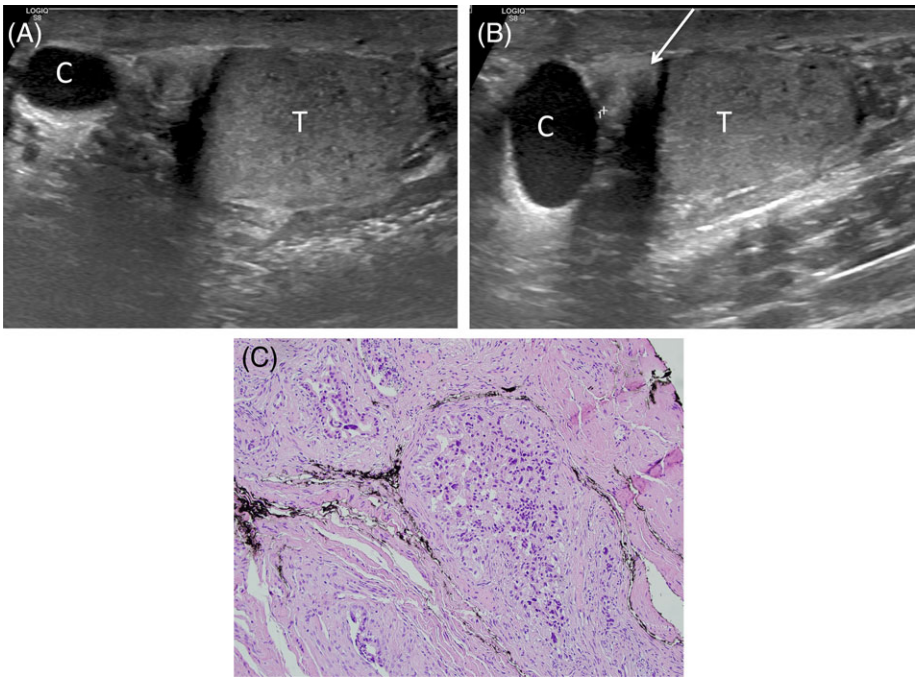

FIGURE 1 A 65-year-old male with adenomatoid tumor. A, Sagittal sonogram of the epididymal head shows the cyst (C) and testis (T). B, Sonogram obtained during palpation with the probe placed on top of the palpated lesion shows a 7-mm echogenic nodule (arrow). C, Pathology revealed an adenomatoid tumor

them and to demonstrate their location at the didymal/epididymal groove, thus recognizing their nature.[3] Two patients, one being investigated for hydrocele, the other for a palpable scrotal lesion, had scrotoliths on the surface of the tunica albuginea. Pushing against the scrotal wall allowed to see them freely moving in the vaginalis sac (Video S1). The last patient had a palpable nodule that was attached to the surface of the testis by a thin stalk containing a small vessel. This allowed to diagnose it correctly as a fibrous pseudotumor.[3] Confirmation of the diagnosis was obtained by surgery in four cases and by follow-up with US in two.

In our experience, nodules were missed on US for a variety of reasons: projection outside of the US field-of-view (below the lower pole of the testis), echogenicity similar to that of adjacent epidydimis, or simply overlooked because they were in an unexpected, superficial location. Furthermore, changes in position of a visible mass induced by palpation may help to clarify its nature, highlighting its location in the didymal/epididymal groove, showing a vascularized stalk, confirming its position at the surface of the tunica vaginalis, or demonstrating free movements within the vaginalis sac.[4]

US can identify most scrotal masses. However, when a small lesion is not immediately visible or when a small mass of indeterminate location or characteristics is encountered, a US examination combined with palpation is recommended.

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