What Could This Volar Thumb Mass Be?

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Section 1 – Quiz

Case

A 28-year-old female presented with a 6-month history of a progressively enlarging volar mass at the base of her right thumb.

She did not report any pain, limitation of range of motion (ROM), previous trauma history of her right distal upper extremity, or neurological symptoms. She did not complain of systemic symptoms either.

On examination, the mass was firm, nontender, and nonpulsatile, without associated erythema or heat. It was rubbery in consistency and slightly moveable. Its diameter was about 1 cm. There was no loss of ROM or strength. The neurovascular examination of the right upper extremity was within the normal limits.

A recent hand X-ray [Figure 1] did not show any bony involvement. At this point, she was referred for a musculoskeletal ultrasound of the mass.

Figure 1: X-ray of the right hand showing absence of bony involvement around the location of the mass at the first metacarpophalangeal joint

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Video available on: www.jmuonline.org

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Figures and videos

Three key images [Figures 2-4] and two videos [Videos 1 and 2] are included.

When evaluating masses on ultrasound, several characteristics help narrow down the differential diagnosis as follows:

- Patients' characteristics (age, history of trauma, and growth velocity of mass)
- Location of the mass
- Echogenicity
- Presence of ultrasound artifacts (e.g., posterior acoustic enhancement)
- Size
- Vascularity
- Compressibility

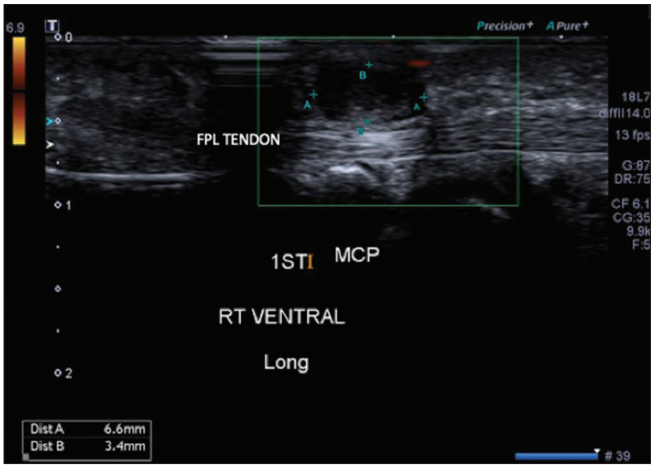

Figure 2: Ultrasound image of the right volar mass in long axis, with power Doppler window activated

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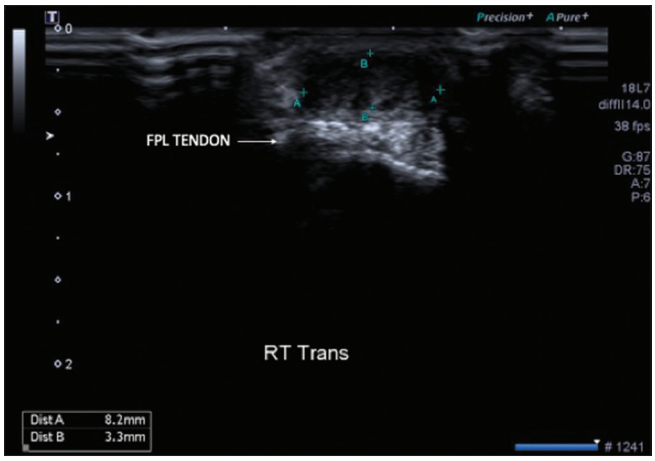

Figure 3: Ultrasound image of the right volar mass in short axis

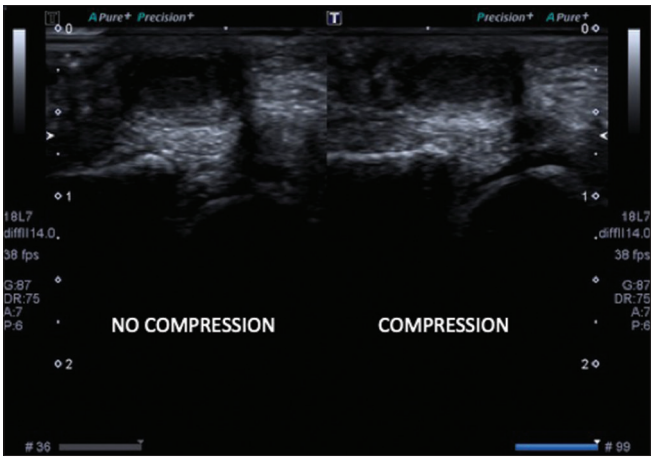

Figure 4: Ultrasound dual image of the mass without and with direct probe compression

- Bony involvement
- Dynamic interactions with the surrounding structures [Videos 1 and 2].

With these elements in mind, the reader will be able to reflect on the potential differential diagnosis and future intervention steps. The second part of this case will be published in the upcoming issue of the *Journal of Medical Ultrasound*.

Declaration of patient consent

The authors certify that they have obtained appropriate patient consent form. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initial will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.