An Often Missed Finding in Ultrasonographic Shoulder Examination

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Section 1 – Quiz

Case

A 52-year-old healthy right-handed female with an office work presented with a progressive mechanical right shoulder pain for 8 months. Her pain was located on the anterolateral aspect of the shoulder, radiating to the deltoid tuberosity, mostly triggered by overhead movements. Symptoms began after a heavier than usual workload, but persisted afterward, worsening with lateral decubitus as well as repetitive or above the head tasks. She had been treated without success in physiotherapy, osteopathy, and massage therapy. She had similar symptoms in 2005, successfully addressed with a presumed right subacromial bursa steroid injection. She had no history of any neurologic symptom, neck pain, trauma, fever, or malaise. X-ray of the right shoulder performed a month earlier was within the normal limits.

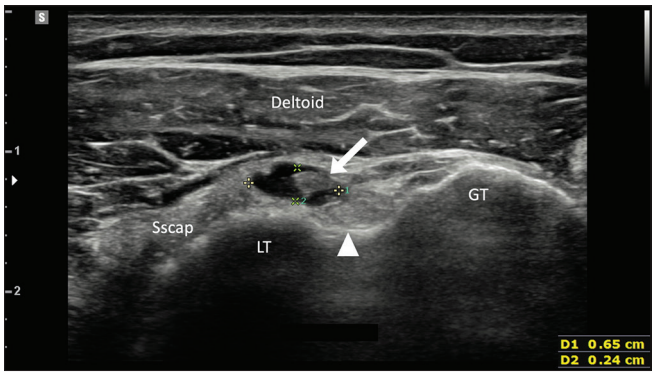

Figure 1: Ultrasound of the right fibrillar structure surrounded by effusion, overlying the long head of biceps tendon, transverse axis. Arrow: Fibrillar structure, arrowhead: Long head of biceps tendon, Sscap: Subscapularis tendon, LT: Lesser tuberosity, GT: Greater tuberosity

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Physical examination revealed full active and passive shoulder range of motion, pain but no weakness with special testing for rotator cuff tendons, mainly with Jobe and Speed's tests. She had strongly positive subacromial impingement maneuvers (Yocum, Neer, and Hawkins–Kennedy tests) and significant tenderness with palpation of the greater tuberosity of the humerus on the right side.

A standardized ultrasonographic (US) evaluation[1] of both shoulders was conducted with an US machine (Samsung RS80A, Samsung Medison Co., Ltd. Seoul, Korea) equipped with a linear LA4-18B probe. The long head of biceps (LHB) tendon was within normal limits, without any effusion, but there was, just superficial to it, an oval-shaped fibrillar structure seen coursing from the rotator cuff near the rotator interval all the way down to the pectoralis major tendon at the

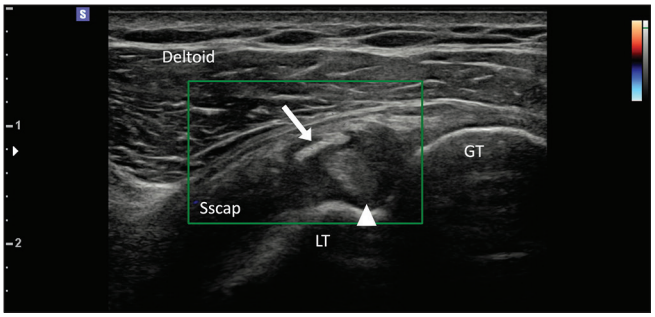

Figure 2: Ultrasound of the right fibrillar structure, overlying the long head of biceps tendon, transverse axis, with power Doppler activated. Arrow: Fibrillar structure, arrowhead: Long head of biceps tendon, Sscap: Subscapularis tendon, LT: Lesser tuberosity, GT: Greater tuberosity

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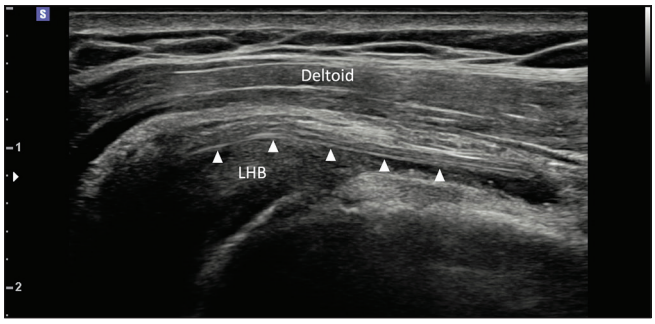

Figure 3: Ultrasound of the right fibrillar structure surrounded by effusion, at the level of the bicipital groove of the humerus, longitudinal axis. Arrowheads: Fibrillar structure, LHB: long head of biceps tendon

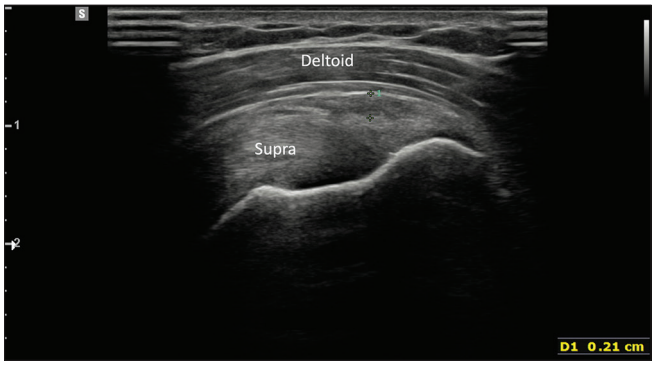

Figure 5: Ultrasound of the right supraspinatus tendon with bursal-sided partial tear of its distal and anterior fibers, associated with a subacromial bursa distension of 2.1 mm, oblique view. Supra: Supraspinatus tendon

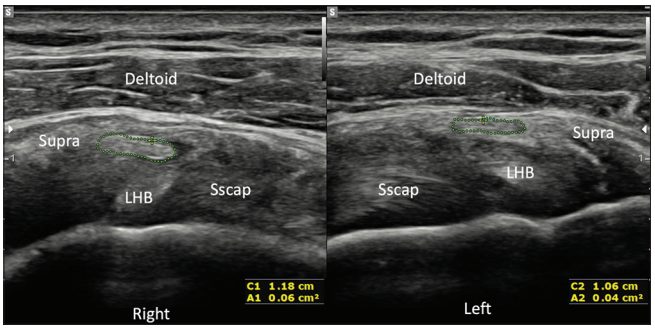

Figure 4: Ultrasound of the right and left fibrillar structures overlying the long head of biceps tendon, at the rotator interval, transverse axis. LHB: Long head of biceps tendon, Sscap: Subscapularis tendon, Supra: Supraspinatus tendon

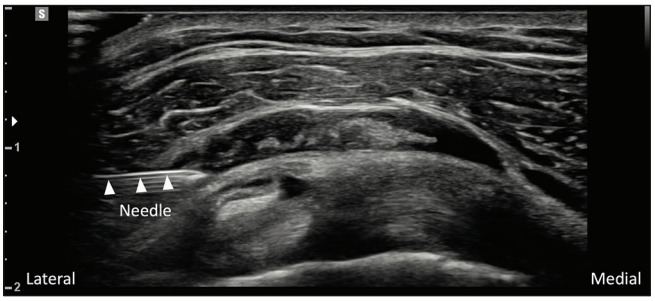

Figure 6: Ultrasound-guided steroid injection of the right subacromial bursa and around the fibrillar structure, in-plane approach from lateral to medial, oblique view of the rotator interval

level of the myotendinous junction of the LHB [Figures 1-4 and Video 1]. This structure was moderately painful with sonopalpation.

The subscapularis tendon was within the normal limits, as well as the acromioclavicular joint. The supraspinatus tendon exhibited a small bursal-sided partial tear of its distal and anterior fibers of <20% of its width, associated with a subacromial bursa distension of 2.1 mm [Figure 5]. The infraspinatus tendon and the posterior glenohumeral joint were normal.

The patient exhibited Grade 2 subacromial ultrasonographic impingement[2] caused by subacromial bursopathy.

A right ultrasound-guided steroid injection (40 mg of methylprednisolone acetate mixed with 2 mL of 1% lidocaine) was performed using an in-plane approach with a somewhat oblique view of the rotator interval to optimize the visualization of the bursa as well as the peri "accessory biceps tendon" effusion. In a single injection, 1 mL of the mixture was injection around the above-mentioned tendinous structure and 2 mL was injected in the subacromial bursa [Figure 6]. The procedure was well tolerated, and the pain 10 min postprocedure had disappeared with overhead movements. She evolved well over time.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. 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 name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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