Agri 2024;36(4):285–286
doi: 10.14744/agri.2023.73444

LETTER TO THE EDITOR

Ultrasound-guided ınjections of 2 internal rotators with one needle: Trigger point treatment for shoulder pain

Tek iğne ile 2 iç rotatorun ultrason rehberliğinde enjeksiyonları: omuz ağrısında tetik nokta tedavisi

Yakup ERDEN,[1] Fatih BAĞCIER[2]

To the Editor,

Shoulder pain, which is often persistent or recurrent, is a common musculoskeletal problem. Myofascial trigger points (MTrPs) primarily cause shoulder pain and are common in patients with shoulder pain.[1] Dry needling with ultrasound (US) guidance is used to treat myofascial pain syndrome.

In posterior shoulder pain, shoulder impingement syndrome, frozen shoulder, and postmastectomy pain conditions, subscapularis, teres major, and other muscles have TrPs.[2,3] Fortunately, the same needle can simultaneously treat MTrPs in the subscapularis and teres major muscles. Another advantage of this method is that a twitch response can be seen clearly via US during the process.

For the intervention, the patient must be in a side-lying position with the affected side up. The shoulder should be flexed, externally rotated, and abducted so that the US probe can reach the subscapularis. To find both muscles in a single view, we placed the US probe around the superolateral border of the scapula horizontally. A 23-gauge (50–60 mm) needle is required. In the first procedure, after the 30–45° needle angle is entered into the skin, the MTrPs of the teres major are targeted. Navigation should be performed until a twitch response is obtained within the muscle. Afterward, without removing the needle, it is directed to the subscapularis muscle at a steeper angle (Fig. 1). It is possible to complete this procedure with dry needling or a local anesthesia injection.

The presence of MTrPs in shoulder muscles such as the subscapularis and teres major is very common among patients with shoulder complaints. TrPs in these muscles, particularly subscapularis, could cause restriction of external rotation and abduction (frozen shoulder position).[2] In an observational study, latent MTrPs were detected in the teres major muscle in one of every two subjects with shoulder pain.[1] Active or latent trigger points provoke motor dysfunction such as muscle imbalance, reduced muscle strength, and accelerated muscle fatigue.[4] In studies, interventions for the shoulder muscle MTrPs have been found effective in reducing pain and improving range of motion and muscle function.[5]

In this procedure, we can perform trigger point injections in the subscapularis and teres major muscles in a single injection. In this context, a method in which three different treatments can be performed with a single needle in chronic shoulder pain has also been described.[6] Complications like vascular injuries and pneumothorax could be avoided by real-time US scanning. The accurate diagnosis and treatment of these MTrPs might reduce pain and improve functional ability in these patients.

[1]Department of Physical Medicine and Rehabilitation, İzzet Baysal Physical Therapy Training and Research Hospital, Bolu, Türkiye
[2]Department of Physical Medicine and Rehabilitation, Başakşehir Çam ve Sakura City Hospital, İstanbul, Türkiye

Submitted *(Başvuru):* **01.08.2022** **Revised** *(Revize):* **01.08.2022** **Accepted** *(Kabul):* **10.08.2023** **Available online** *(Online yayımlanma):* **08.10.2024**

Correspondence: Dr. Yakup Erden. İzzet Baysal Fizik Tedavi Eğitim ve Araştırma Hastanesi, Fiziksel Tıp ve Rehabilitasyon Kliniği, Bolu, Türkiye.
Phone: +90 - 374 - 262 84 45 **e-mail:** yakuperden@hotmail.com

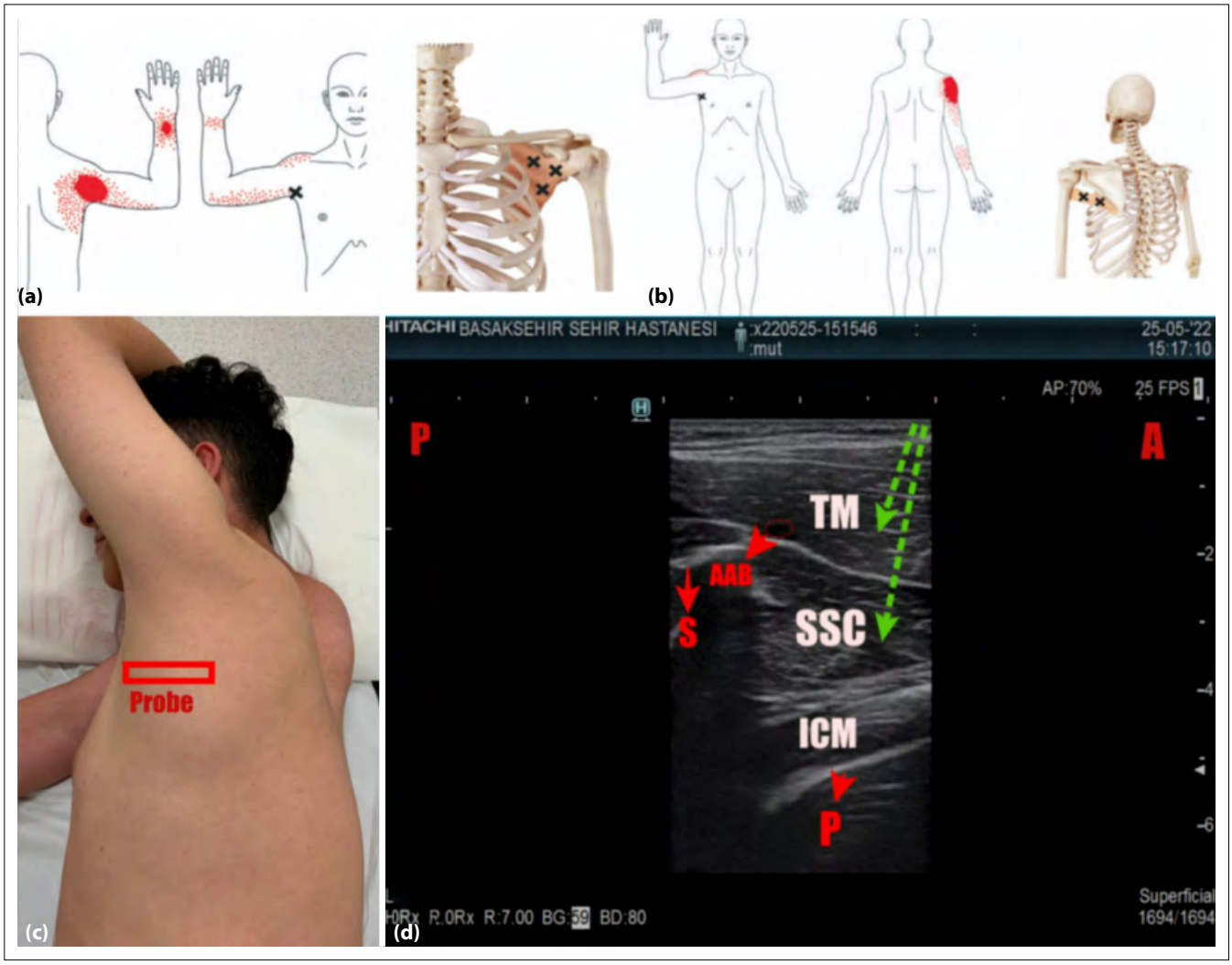

Figure 1. (a, b) Subscapularis and Teres major Trigger Points & projected referral pain pattern. **(c)** Patient position for the subscapularis and teres major. **(d)** Transverse (posteroanterior) ultrasound image of these muscles. TM Teres major; SSC Subscapularis; ICM Intercostal muscle; P Pleura; S Superolateral margin of Scapula; AAB The largest branch of the axillary artery (the subscapular trunk).

Informed Consent: Written informed consent was obtained from patients who participated in this study.

Use of AI for Writing Assistance: Not declared.

References

1. Bron C, Dommerholt J, Stegenga B, Wensing M, Oostendorp RA. High prevalence of shoulder girdle muscles with myofascial trigger points in patients with shoulder pain. BMC Musculoskelet Disord 2011;12:139. [CrossRef]
2. Gerwin RD. Myofascial pain syndromes in the upper extremity. J Hand Ther 1997;10:130–6. [CrossRef]
3. Sergienko S, Kalichman L. Myofascial origin of shoulder pain: A literature review. J Bodyw Mov Ther 2015;19:91–101.
4. Dommerholt J, Grieve R, Layton M, Hooks T. An evidence-informed review of the current myofascial pain literature--January 2015. J Bodyw Mov Ther 2015;19:126–37. [CrossRef]
5. Bron C, de Gast A, Dommerholt J, Stegenga B, Wensing M, Oostendorp RA. Treatment of myofascial trigger points in patients with chronic shoulder pain: A randomized, controlled trial. BMC Med 2011;9:8. [CrossRef]
6. Bagcier F, Yurdakul OV, Özduran E. In different shoulder pathologies, three different treatments can be performed with one needle under ultrasound guidance: Technical advice. Med Ultrason 2021;23:115–6. [CrossRef]