LETTER TO THE EDITOR EDİTÖRE MEKTUP

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Response: Using Handheld Portable Ultrasound in Bedside Assessment of Post-Stroke Hemiplegic Shoulders: Early Detection of Glenohumeral Subluxation

Yanıt: İnme Sonrası Hemiplejik Omuzların Yatak Başı Değerlendirilmesinde El Tipi Taşınabilir Ultrasonun Kullanılması: Glenohumeral Subluksasyonun Erken Tespiti

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Dear Editor;

We carefully read the article "Using Handheld Portable Ultrasound in Bedside Assessment of Post-stroke Hemiplegic Shoulders: Early Detection of Glenohumeral Subluxation".[1] With the advances in technology, portable handheld ultrasound (PHU) devices have been developed and used by clinicians in many fields.[1,2] This point is well emphasized in this article. In your article, it was stated that >2 mm difference in acromio-greater tuberosity (AGT) distance may be significant for subluxation.[1] However, it may be useful to mention a few points to be considered regarding AGT distance measurement.

Although AGT distance measurements have been reported as reliable measurements; In a study evaluating shoulder ultrasonographic measurements, the intra-rater and inter-rater minimal detectable change (MDC) values of AGT distance were 0.78 cm and 0.55 cm, respectively.[3] To achieve good reliability in all age groups, they did not recommend the use of AGT distance measurement until further improvements in US protocols.[4] The MDC value is very important and represents the smallest clinically significant difference for the measurements to be considered reliable. Furthermore, another study demonstrated the relationship between AGT distance and individual-related variables, finding a significant correlation between the individual's height and AGT distance.[5]

Cholewinski et al. found that AGT distance was significantly different between individuals with subacromial impingement syndrome and a healthy con-

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trol group without any complaints or history of shoulder pain.[5] They reported that the difference in AGT distance between both shoulders ranged from -3.9 to +8.6 mm, with a median difference of 2.7 mm. Therefore, the reliability of the underlying cut-off value of >2 mm is questionable. In addition, Kumar and Attwood found the inter-rater standard error of measurement and MDC values to be 0.2-0.2 cm and 0.3-0.4 cm for the right and left shoulder, respectively, in a reliability study of AGT distance measurement performed by experienced and novice assessors in healthy controls.[3] This shows that the experience of the person performing the measurement is important. In addition, the widespread use of PHU devices has led to questions about the reliability of these devices.

Previously, the reliability of PHU devices in measuring the vertical distance between the acromion and humerus was demonstrated.[2] However, to the best of our knowledge, no study has evaluated the reliability of PHU devices for AGT distance measurements.

In conclusion, more reliable measurements are needed to evaluate shoulder subluxation in patients with post stroke hemiplegia. There is also a need for studies to evaluate the reliability of AGT distance measurements of PHU devices in clinical use.

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