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Physical Examination Findings of Painful Shoulder

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Abstract

Introduction with Objective: *Shoulder pain and weakness are common complaints among patients, which can lead to disability and affect a person's ability to perform daily activities. The aim of this study was to identify the physical examination findings of painful shoulder.* ***Materials and Methods:*** *This Prospective Observational Study was carried out among 101 patients attending at the Department of Physical Medicine and Rehabilitation, Dhaka Medical College and Hospital (DMCH), Dhaka within the defined period from July 2021 to December 2021. Ethical clearance was obtained from the Institutional Review Board (IRB) of Dhaka Medical College Hospital. Purposive sampling was done according to availability of the patients. Statistical analyses of the results were obtained by using window based computer software devised with Statistical Packages for Social Sciences (SPSS-20.1).* ***Results:*** *Majority of the patients (59.4%) were in 41-50 years age group where the mean age of the patients was 50.3 ± 7.9 years and 51 (50.5%) patients were male. Majority of the patients (59.4%) had shoulder pain on right shoulder. In case of active movement, the mean external rotation (in abduction) of the patients was 69.1 ± 17.5 and the mean forward flexion was 153.9 ± 17.2. On the other hand, in case of passive movement, the mean external rotation (in abduction) of the patients was 73.6 ± 15.2 and the mean forward flexion was 160.7 ± 13.7 On physical examination, 76 (75.2%) patients were Neer tests positive, 62 (61.4%) were Jobe's test for supraspinatus positive and 37 (36.6%) were Yegarson's test for the long head of the biceps brachii positive. Most of the patients (93.1%) were Patte's test for infraspinatus negative.* ***Conclusion:*** *Appropriate physical examination of the shoulder is important for making an accurate diagnosis and distinguishing certain pathologies of the shoulder.*

Keywords: *Physical examination, Painful shoulder.*

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Introduction:

The shoulder is a complex structure that affords great mobility at the expense of stability. Its stability can be divided into static and dynamic components. Statically, the bony glenoid, cartilaginous labrum, glenohumeral ligaments, and joint capsule provide moderate stability[1]. Shoulder pain is the most common and incapacitating upper limb

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overuse injury and can be caused by bicipital tendonitis, rotator cuff impingement syndrome, subacromial bursitis, capsulitis, and osteoarthritis[2]. As shoulder disorders can develop into chronic conditions,[3] it is essential to identify the exact pathology to select the most appropriate treatment[4]. Identifying a specific shoulder pathology may be challenging, considering the numerous structures examination, which involves inspection, palpation, assessment of range of motion, strength, and neurovascular integrity. In addition, specific tests are used to reproduce symptoms and signs that would help physicians identify the pathology of the shoulder problem[5]. The aim of this study was to describe the specific tests used to evaluate common shoulder conditions to facilitate accurate diagnosis and guide proper treatment of these conditions.

Materials & Methods:

This Prospective observational Study was carried out among 101 patients attending at the Department of Physical Medicine and Rehabilitation, Dhaka Medical College and Hospital (DMCH), Dhaka within the defined period from July 2021 to December 2021. Ethical clearance was obtained from the Institutional Review Board (IRB) of Dhaka Medical College Hospital. Purposive sampling was done according to availability of the patients. Physical examination Neer's test for shoulder impingement syndrome, Jobe's test for supraspinatus, Patte's test for infraspinatus, Gerber's lift-off test for subscapularis, Yegarson's test for the long head of the biceps brachii was also performed. The collected data were entered into the computer and analyzed by using SPSS (version 20.1).

Results:

Majority of the patients (59.4%) were in 41-50 years age group where the mean age of the patients was 50.3 ± 7.9 years and 51 (50.5%) patients were male (Table I).

Table I: Socio-demographic Characteristics of the study population (n=101)

Parameter	Number	percentage
Gender		
Male	51	50.5%
Female	50	49.5%
Age in years		
41-50	60	59.4
51-60	31	30.7
61-70	10	9.9
Mean ± SD (min-max)	50.3 ± 7.9 (41-70)	

Majority of the patients (59.4%) had shoulder pain on right shoulder (Table II).

Table II: Distribution of patients by side of pain involvement (n=101)

Side of pain	Frequency (n)	Percentage (%)
Right shoulder	60	59.4
Left shoulder	41	40.6

In case of active movement, the mean external rotation (in abduction) of the patients was 69.1 ± 17.5 and the mean forward flexion was 153.9 ± 17.2. On the other hand, in case of passive movement, the mean external rotation (in abduction) of the patients was 73.6 ± 15.2 and the mean forward flexion was 160.7 ± 13.7 (Table III).

Table III: Distribution of patients by measurement of range of motion of shoulder joint (n=101)

Movements	Mean ± SD (in degree)	Range(min-max)
Active		
External rotation (in abduction)	69.1 ± 17.5	10-80
Forward flexion	153.9 ± 17.2	100-165
Extension	52.1 ± 10.9	20-60
Abduction	140.9 ± 37.7	15-170
Passive		
External rotation (in abduction)	73.6 ± 15.2	10-80
Forward flexion	160.7 ± 13.7	100-165
Extension	56.4 ± 8.6	20-60
Abduction	159.6 ± 22.6	85-170

On physical examination, 76 (75.2%) patients were Neer tests positive, 62 (61.4%) were Jobe's test for supraspinatus positive and 37 (36.6%) were Yegarson's test for the long head of the biceps brachii positive. Most of the patients (93.1%) were Patte's test for infraspinatus negative (Table IV).

Table IV: Distribution of patients by physical examination (n=101)

Physical examination	positive	Negative
Neer tests for shoulder impingement syndrome	76 (75.2%)	25 (24.8%)
Jobe's test for supraspinatus	62 (61.4%)	39 (38.6%)
Patte's test for infraspinatus	7 (6.9%)	94 (93.1%)
Gerber's lift-off test for subscapularis	17 (16.8%)	84 (83.2%)
Yegarson's test for the long head of the biceps brachii	37 (36.6%)	64 (63.4%)

Discussion:

The mean age of the patients in this study was 50.3 ± 7.9 years which was comparable to the study of Khan et al. (2019)[6] and Choi & Kim (2020)[7]. In the study of Khan et al. (2019)[6] the mean age of the patients was 52 years while in the study of Choi & Kim (2020)[7] the mean age of the patients was 51 years. Though other studies conducted by Kim HA et al. (2007)[8] and Cheng X et al. (2017)[9] found predominant female patients with shoulder pain, male to female proportion was almost equal in this study. Majority of the patients (59.4%) had shoulder pain on right shoulder which was in consistent with other studies conducted by Deshpande SV et. al (2018)[10]. In case of active movement, the mean external rotation (in abduction) of the patients was 69.1 ± 17.5 and the mean forward flexion was 153.9 ± 17.2. On the other hand, in case of passive movement, the mean external rotation (in abduction) of the patients was 73.6 ± 15.2 and the mean forward flexion was 160.7 ± 13.7. This restricted shoulder movement of patients was due to pain and tenderness, this restriction of movement was less comparative to the study of

Choi & Kim (2020)[7]. On physical examination, 75.2% patients were Neer tests positive, 61.4% were Jobe's test for supraspinatus positive and 36.6% were Yegarson's test for the long head of the biceps brachii positive. Most of the patients (93.1%) were Patte's test for infraspinatus negative. Similar finding was reported by Khan et. al (2019)[6] in their study. However, Kim et. al (2007)[8] found less positivity of these patients regarding physical examination.

Conclusion:

In our study, most of the patients Neer tests for shoulder impingement syndrome was positive followed by Jobe's test for supraspinatus. The clinician should rather focus on choosing the best test, based on the patient's history, to confirm a suspected diagnosis.

Conflict of Interest: None.

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