

Original Article

Severity of pain according to Visual Analog Scale in adhesive capsulitis patients

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Abstract:

Objective: The aim of the present study was to assess the severity of pain according to visual analog scale in adhesive capsulitis patients with DM.

Methods: A descriptive, cross sectional study was conducted from January 2019 to June 2019 among 200 patients attending at Physical Medicine and Rehabilitation Department, Bangabandhu Sheikh Mujib Medical University after obtaining requisite consent from the patients. Purposive sampling was adopted for collecting data. Data were collected through the assessment of patients in the Outpatient Department. The collected data were entered into the computer and analyzed by using SPSS (version 20.1) to assess the severity of pain according to visual analog scale in adhesive capsulitis patients. The study was approved by the institutional ethical committee.

Results: Mean age of patients with adhesive capsulitis was 54.85±9.35 years. Among 200 DM patients, majority (35%) was between 51-55 years. Among 200 patients 61% was female and 39% was male. Among the DM patients 54(27%) had adhesive capsulitis, and 146(73%) did not have adhesive capsulitis. Female patients (65%) suffered from more adhesive capsulitis of shoulder than male patients (35%). Most of the adhesive capsulitis patients suffering from moderate type of pain which visual analogue score is 4-6.

Conclusion: Overall frequency of adhesive capsulitis of the shoulder among diabetic individuals attending in physical medicine and rehabilitation department of a tertiary care hospital was 27%. Most of the adhesive capsulitis patients suffering from moderate type of pain which visual analogue score is 4-6.

Keywords: Adhesive Capsulitis, Diabetes mellitus, Visual analogue scale.

Introduction

Adhesive capsulitis is a well-defined disorder characterized by progressive pain and stiffness of the shoulder which usually resolves spontaneously after about 18 months.¹ The patients typically present with progressive painful restriction in range of movement of the glenohumeral joint without any preceding trauma. They exhibit a capsular pattern of restriction with external rotation being the most restricted followed by abduction in the plane of the scapula and then flexion.² Diabetes mellitus is a chronic metabolic condition characterised by persistent hyperglycaemia with resultant morbidity and mortality related primarily to its associated microvascular and macrovascular complications.³ There is a well-documented relationship between adhesive capsulitis and diabetes mellitus. 10.8% diabetics and 2.3 % non-diabetics were

found to have periartthritis of the shoulder, a statistically significant difference between the two groups of patients ($P < 0.005$).⁴ There were three consecutive stages: pain, stiffness, and recovery. The stiffness stage was usually related to the duration of the recovery stage. The total duration was longer than is generally supposed (an average total of 30.1 months in contrast to about 18 months as often postulated). Generally speaking, the longer the stiffness stage is the longer is the recovery stage.⁵ The visual analog scale (VAS) is a validated, subjective measure for acute and chronic pain. Several studies have been conducted worldwide, a small number of study has been found in Bangladesh. Considering the importance of the topic, the study was designed to estimate the severity of pain according to visual analog scale in adhesive capsulitis patients with DM in a tertiary care hospital.

Materials & methods

A descriptive, cross sectional study was conducted from January 2019 to June 2019 among 200 patients attending at Physical Medicine and Rehabilitation Department, Bangabandhu Sheikh Mujib Medical University after obtaining requisite consent from the patients. Purposive sampling was adopted for collecting data. The study was approved by the institutional ethical committee. The assessment of patients were held directly in the Outpatient Department. The relevant information was entered into the predesigned proforma to estimate the severity of pain according to visual analog scale in adhesive capsulitis patients with DM. The collected data were entered into the computer and analyzed by using SPSS (version 20.1)

Results

Mean age of patients with adhesive capsulitis was 54.85 ± 9.35 years. In 200 patient's majority 35% was between 51-55 years, 31% was between 56-60 years, 22% was between 46-50 years, 12% was between 40-45 years. Among 200 patients with 61% was female and 39% was male. (Table-I)

Table-I: Demographic characteristics of the study population (n=200)

Parameter	Number	Percentage
Age of the patients		
40-45 years	24	12
46-50 years	44	22
51-55 years	70	35
56-60 years	62	31
Total	200	100
Sex		
Male	78	39
Female	122	61
Total	200	100

A total of 200 patients with diabetes were included in the final analysis. Among the DM patients 54(27%) had adhesive capsulitis, and 146(73%) did not have adhesive capsulitis.

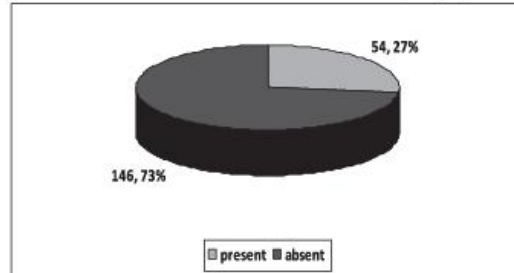


Figure-I: Distribution of patients according to frequency of Adhesive Capsulitis (n=200)

Female patients (65%) suffered from more adhesive capsulitis than male patients (35%). (Figure-II)

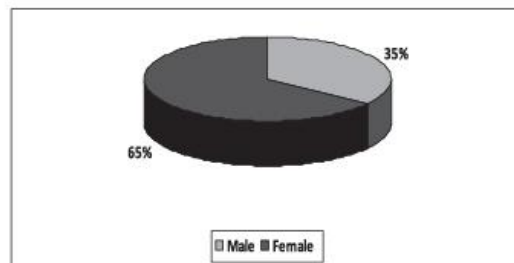


Figure-II: Pie chart showing presence of adhesive capsulitis among male and female (n=54).

Among the patients with adhesive capsulitis, most of the patients 22(41%) had VAS score 4-6 (moderate pain), 14 patients (26%) had VAS score 1-3 (mild pain), 18 patients (33%) had VAS score 7-10 (severe pain). (Table-II)

Table-II: Severity of pain according to Visual Analog Scale (n=54)

Visual analogue score	Number of Patients	Percentage
0 (No pain)	0	0
1-3 (Mild pain)	14	26
4-6 (moderate pain)	22	41
7-10 (severe pain)	18	33

Discussion

Adhesive capsulitis is a distinctive clinical entity, usually occurring in the fifth and sixth decades. It may be associated with trauma or with various illnesses, but most cases are idiopathic. The evidence for disease

relationships is uncovering, with the possible exception of diabetes mellitus. A total number of 200 patients with diabetes were included in the final analysis. Among the patients 54(27%) had adhesive capsulitis, and 146(73%) did not have adhesive capsulitis. So, prevalence of Adhesive Capsulitis was 27%. A study was conducted by Khan et al. in a tertiary care hospital of Bangladesh upon 300 diabetic and 300 non-diabetic individuals. There, frequency of Adhesive Capsulitis in diabetic group was 20% and in non-diabetic group it was 5.66%.⁶ According to that study our frequency result is higher. Probably because, a lot of diabetic patients with Adhesive Capsulitis come from BIRDEM General Hospital, which is a diabetic hospital and very near to BSMMU. Mean age of patients with adhesive capsulitis was 54.85±9.35 years. Among 200 patients, majority 35% was between 50-55 years, 31% was 56-60 years, 22% was 46-50 years, 12% was 40-45 years. In a case report in Bangladesh by Uddin et al. Reported that mean age of the patients was 53 years which is similar to our study.⁷ Other observer found maximum patients 39% were between the age group of 51-60 which is also similar to our study.⁸ Among 200 patients with 61% was female and 39% was male. In a study by Ahmed et al. reported among 325 patients 52.3% were male and 47.7 % were female which is not similar to us.⁹ In another study by Khan et al. 31.67% patients were male and 68.33% were female which is similar to our study.¹⁰ Among the patients with adhesive capsulitis most of the patient 16(29.62%) had VAS score 5-6, 14(25.92%) had VAS score 7-8, 12(22.22%) had VAS score 3-4, 8(14.81%) had VAS score 1-2, and 4(7.4%) have VAS score 9-10. In a study among 50 patients 32% had severe pain, 52% had moderate pain, and 16% had mild pain.¹¹ Which is also similar to this study. Adhesive capsulitis is a chronic disabling condition associated with pain, which require long-term management in the form of physiotherapy and repeated injections. Unfortunately, the treatment is more prolonged in DM patients, and surgery may be required if the condition is not treated early.¹²

Conclusion

Overall frequency of adhesive capsulitis of the shoulder among diabetic individuals attending in physical medicine and rehabilitation department of a tertiary care hospital was 27%. The disease affects predominantly females in sixth decade of age. Most of the adhesive capsulitis patients suffering from moderate type of pain which visual analogue score is 4-6.

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