

## Adhesive Capsulitis of Shoulder (Frozen Shoulder) among the Diabetic Patients with Rheumatic Complaints

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### Abstract

**Introduction:** Adhesive capsulitis of shoulder is the most common soft tissue rheumatism among the diabetes patients with rheumatic complaints but the etiology is still unknown. To detect the incidence of adhesive capsulitis (frozen shoulder) among diabetic patients with rheumatic complaints. **Materials and Methods:** All patients having diabetes with rheumatic complaints attended in the department of Physical Medicine and Rehabilitation, BIRDEM and BSMMU, Dhaka during the period June 2003 to November 2003 were included in this study. **Results:** After discarding unsatisfactory samples, 273 samples were assayed for study. Out of 1665 patients 273 (16.40%) had adhesive capsulitis. Out of 273 patients 145 (53.12%) were female and 141 (51.65%) were housewives and of 206 (75.45%) patients was in age group 41-60 years. **Conclusion:** The incidence of adhesive capsulitis of shoulder among diabetic patients female is more than male. It is found that housewives and elderly people are mostly sufferer with this disease.

**Key words:** Adhesive capsulitis, Diabetes, Rheumatic disease.

Number of Tables:04 ; Number of References: 16; Number of Correspondence: 04.

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### Introduction:

Frozen shoulder is a general term used to describe any shoulder that is stiff. Adhesive capsulitis of shoulder is a common and disabling condition is characterized by pain and stiffness in the absence of any recognized intrinsic abnormality in the shoulder joint<sup>1</sup>. This condition involves the spontaneous, gradual onset of shoulder stiffness and pain caused by tightening of the joint capsule. Adhesive capsulitis is a condition in which there is pain and stiffness or motion loss in the shoulder<sup>2</sup>. Adhesive capsulitis is a painful and disabling condition that often causes great frustration for patients and caregivers due to slow recovery. Movement of the shoulder is severely restricted. Pain is usually constant, worse at night, and when the weather is colder; and

along with the restricted movement can make even small tasks impossible. Certain movement or bumps can cause sudden onset of tremendous pain cramping that can last several minutes<sup>3</sup>.

The shoulder is a unique anatomical structure with an extraordinary range of motion (ROM) that allows us to interact with our environment. A loss of mobility if this joint will cause significant morbidity. Adhesive capsulitis is a poorly understood musculoskeletal condition that can be disabling. Adhesive capsulitis is diagnosed by numerous physical characteristics including a thickening of the synovial capsule, adhesions within the subacromial or subdeltoid bursa, adhesions to the biceps tendon, and/or obliteration of the axillary fold secondary to adhesions<sup>4-12</sup>. Since Duplay initially described a case report of adhesive capsulitis almost 130 years ago, this condition remains an enigmatic shoulder disorder that causes pain and restricted ROM at the glenohumeral joint<sup>13</sup>.

### Stages of adhesive capsulitis progression:

First, Early freezing stage (last 2-9 months, gradual reduction ROM, Increase in pain-principally at night, aching at rest, aggravated by arm movement.)

Second, Frozen stage (last 4-12 months, pain reduces, ROM greatly reduce or lost entirely, compensatory movements)

Third, Thawing stage (last 4-14 months, gradual restoration of mobility, reduction in pain, in 10-20% of cases the second shoulder will be affected within 5 years)

Patients with different rheumatic complaints were referred from orthopedic, neuromedicine and other outpatient department to the of Physical Medicine & Rehabilitation, BIRDEM and BSMMU for proper treatment and rehabilitation. They used to treat by drugs, physical therapies, exercises, braces and activities of daily living instructions.

An attempt has been taken to find out the incidence and etiological pattern of adhesive capsulitis of shoulder among the diabetes patients. Data collected from this study may be helpful for proper management of the diabetes patients with adhesive capsulitis and suffering of the patients can be reduced.

**Materials and Methods:**

It was a prospective study carried out in the department of Physical Medicine & Rehabilitation, BIRDEM Hospital collaborated with the department of Physical Medicine, BSMMU, Dhaka during June 2003 to November 2003. Two hundred seventy three patients were selected following the inclusion criteria (suffering from adhesive capsulitis, having diabetes mellitus with rheumatic complaints, aged more than 20 years, both male and female).

Proper consent was taken from the patients. All patients were examined thoroughly and clinical and demographic history was taken in a pre-designed form. Relevant investigation were done. All data were compiled and edited meticulously. The data were screened and were checked for any discrepancy. All omissions and inconsistencies were corrected methodically. The numerical data were analyzed statistically by using SPSS 15.0 statistical package. The results were expressed as frequency and percentage.

**Results:**

Adhesive capsulitis of shoulder was 16.40% among 1665 patients with rheumatic disorders.

**Table-I: Distribution of adhesive capsulitis of shoulder among diabetic patients.**

Total number of patients	Number of patients with adhesive capsulitis	Percentage
1665	273	16.40

**Table-II: Distribution of adhesive Capsulitis of shoulder among diabetic patients by sex (n=273).**

Sex	Number of patients	Percentage
Male	128	46.88
Female	145	53.12
<b>Total</b>	<b>273</b>	<b>100.00</b>

**Table-III: Age distribution of adhesive capsulitis of shoulder among diabetic patients (n=273).**

Age	Number of patients	Percentage
21-30	3	1.10
31-40	21	7.69
41-50	102	37.36
51-60	104	38.09
60-70	31	11.36
Above 70	12	4.40
<b>Total</b>	<b>273</b>	<b>100.00</b>

**Table-IV: Occupational distribution of adhesive capsulitis of shoulder among diabetic patients(n=273).**

Occupation	Number of patients	Percentage
House wives	141	51.65
Service	56	20.51
Retd. Serviceman	30	10.99
Business	27	9.89
Cultivators	4	1.47
Driver	5	1.83
Other	10	3.66
<b>Total</b>	<b>273</b>	<b>100.00</b>

**Discussion:**

Adhesive capsulitis of shoulder is comprises the most common disease among diabetes patients it appears to increase with age and most common in women than men. A study done by J.F. BRIDGMAN revealed that 10.16% of the study population presented frozen shoulder<sup>14</sup>.

In our study, 1665 patients attended in the department of Physical Medicine and Rehabilitation, BIRDEM and BSMMU, Dhaka. Among them 273 (16.50%) patients were found with adhesive capsulitis.

In our study most of the patients 145 (53.12%) were female. Female male ratio was 1.13:1. Frozen Shoulder affects women more frequently than men, with a female-to-male ratio of about 1.4:1<sup>15</sup>.

In our study most of the patients were of 41-60 years age group constituted 75-40% of the total study population followed by 31 (11.36%), 21 (7.69%), 12 (4.40%) and 31 (1.10%) were in age group 60-70 years, 31-40 years, above 70 years and 21-30 years respectively. Adhesive capsulitis is rare in children,<sup>16</sup> and peaks between 40 and 70 years of age<sup>4</sup>.

In this study most of the patients 141 (51.65%) were housewives followed by serviceman, retd, serviceman, business, other profession, driver and cultivator were 56 (20.51%), 30 (10.99%), 27 (9.89%), 10 (3.66%), 5 (1.83%) and 4 (1.47%) respectively.

**Conclusion:**

Considering the information gathered from this study, adhesive capsulitis of shoulder is the common form of soft tissue rheumatism of non articular rheumatism among diabetic patients with rheumatic complaints. From the present study it may be concluded that female patients are more sufferer than male patients and housewives elderly people are mostly affected with this diseases.

**Conflict of Interest:** None.

**Acknowledgement:**

This is my great pleasure to all patients having diabetes with rheumatic complaints attended in the department of Physical Medicine and Rehabilitation, BIRDEM and BSMMU, Dhaka during the period June 2003 to November 2003.

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