

# Clinical and Demographical Profile of Patients Suffering from Adhesive Capsulitis

Muhammad Usman Anjum<sup>1</sup>, Adil Umar Durrani<sup>2</sup>, Khurram Nadeem<sup>4</sup> and Arshad Wahab Shah<sup>3</sup>

## ABSTRACT

**Objective:** To study the clinical and epidemiological characteristics of patients presenting with adhesive capsulitis,

**Study Design:** Observational / descriptive study,

**Place and Duration of Study:** This study was conducted at the Shahina Jamil Teaching Hospital, Abbottabad from January to December, 2016,

**Materials and Methods:** All patients with both genders, between 20-60 years of age and suffering from adhesive capsulitis were included in the study. Frozen shoulder was diagnosed on the basis of history, physical examination and a normal radiograph by an experienced clinician. Patients with local chronic disease or infection .e.g. osteoporosis, osteomyelitis, local skin infection or malignancy or history of trauma or abnormal radiograph were excluded from the study.

**Results:** There were 158 patients in this study. Out of 158 patients, 51.27 % were female and 48.73 % were males showing higher preponderance of female gender. Majority of patients, 57 (36.07%), were between the ages of 41-50 years followed by 53 patients, (33.54%), in the age group of 51-60 years. Collectively, 69.61 % of patients of adhesive capsulitis were between the age of 41 to 60 years showing its higher predilection for older age groups. Their mean pain score was 9.82. Regarding the duration of the disease, most of the patients, 76 (48.10%), had their disease started in less than six months while 68 patients, (43.04%), had their disease for 7-9 months.

**Conclusion:** Adhesive capsulitis is a clinical condition which predominantly affects females. Diabetic patients have higher risk of this condition. This is a gradually progressive condition in which initially there is pain followed by stiffness and restriction of movements of affected joint and then, resolution. Prompt diagnosis and treatment is of paramount importance in the management of this condition.

**Key Words:** adhesive capsulitis, frozen shoulder

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## INTRODUCTION

Adhesive capsulitis, also known as frozen shoulder, is a common orthopedic condition which is associated with substantial morbidity and hence, impairs the quality of life.<sup>1</sup> This condition primarily affects women and those between 40 to 60 years of age while peak age is 56 years.<sup>2,3</sup> The overall prevalence among general population is 2-5%.<sup>4</sup> Pain and stiffness in affected shoulder gravely hampers with the daily activities which in turn impairs quality of life as well as seriously affects the productivity because of absence from work.<sup>5</sup> The condition may affect single shoulder followed by other a few years later or it can affect both shoulders simultaneously.<sup>6</sup>

There is a strong association between adhesive capsulitis and some clinical conditions .e.g. diabetes mellitus, rheumatic and heart diseases and it's prevalence among diabetic patients is believed to be as high as 11-30%.<sup>5</sup>

Adhesive capsulitis could be primary or secondary. Primary frozen shoulder is believed to be idiopathic in origin, does not have any identifiable cause, no history of trauma and normal radiological examination.<sup>7</sup> Secondary frozen shoulder is usually associated with other conditions, chiefly with history of trauma or surgery and this has believed to have poorer prognosis.<sup>1,3</sup> This condition begins with a painful phase where the pain increases with movement and affects patient's sleep followed by a stiff phase where movements get restricted. Then there is a final recovery phase where movements and function of affected joint is restored.<sup>8,9</sup> It is believed that the initial synovial inflammatory reaction is responsible for causing pain and is followed by a fibrotic reaction which restricts movements at the joint.<sup>1,3</sup>

Data in this area is scarce in our area. Therefore, we have performed this study to determine the clinical and demographical characteristics of the patients who were suffering from adhesive capsulitis.

<sup>1</sup>. Department of Pathology / Oral Biology<sup>2</sup>/ Community Medicine<sup>3</sup>, Frontier Medical & Dental College, Abbottabad.

<sup>4</sup>. Department of Oral Medicine), Faryal Dental College, Lahore.

Correspondence: Dr. Muhammad Usman Anjum,  
Assistant Professor, Department of Pathology, Frontier  
Medical & Dental College, Abbottabad.  
Contact No: 0335-5112339  
Email: usmanziyai@gmail.com

## MATERIALS AND METHODS

This descriptive study was conducted in Shahina Jamil Teaching Hospital, Abbottabad, from January to December, 2016. It was a purposive non probability sampling. All patients with both genders, between 20-60 years of age and suffering from adhesive capsulitis were included in the study. Frozen shoulder was diagnosed on the basis of history, physical examination and a normal radiograph by an experienced clinician. Patients with local chronic disease or infection .e.g. osteoporosis, osteomyelitis, local skin infection or malignancy or history of trauma or abnormal radiograph were excluded from the study. Data was recorded in a pre-structured performa. Data was entered, organized and analyzed using Statistical Package for Social Sciences (SPSS version 21).

## RESULTS

There were 158 patients in this study. Demographic and epidemiological characteristics of the study participants were given in Table 1. Out of 158 patients, 51.27 % were female and 48.73 % were males showing higher preponderance of female gender. Majority of patients, 57 (36.07%), were between the ages of 41-50 years followed by 53 patients, (33.54%), in the age group of 51-60 years.

**Table No.1: Demographic and clinical profile of study participants, (n = 158)**

Gender wise distribution:		
Gender	Number	Percentage
Female	81	51.27%
Male	77	48.73%
Total	158	100%
Age-wise distribution:		
Age	Number	Percentage
20-30 years	9	5.69%
31-40 years	39	24.68%
41-50 years	57	36.07%
51-60 years	53	33.54%
Total	158	100%
Duration of adhesive capsulitis:		
Months	Number	Percentage
4-6 months	76	48.10 %
7-9 months	68	43.04 %
10-12 months	14	8.86 %
Total	158	100%
Mean duration of adhesive capsulitis, (months):	6.83 ± 1.97	
Pain scores:		
Mean ± S.D	9.82 ± 4.46	

Collectively, 69.61 % of patients of adhesive capsulitis were between the ages of 41 to 60 years showing its higher predilection for older age groups. Their mean pain score was 9.82. Regarding the duration of the

disease, most of the patients, 76 (48.10%), have their disease started in less than six months while 68 patients, (43.04%), had their disease for 7-9 months while mean duration of disease was  $6.83 \pm 1.97$ .

## DISCUSSION

Frozen shoulder is a common clinical condition which preferentially affects middle aged women. It is characterized by an initial painful phase which is followed by a progressive fibrotic reaction leading to reduced movements in the affected shoulder joint. Some clinical conditions especially diabetes significantly increases the life-time risk of developing this condition.<sup>10</sup> It seriously hampers the daily activities of the patient affecting their daily routine. It is diagnosed clinically and shoulder radiography helps in its diagnosis.<sup>11, 12</sup>

Our study has shown that majority of our study population composed of female patients, 51.27 %. This finding corroborated with other studies. Sharma et al reported that majority of their study participants were females, 58%, with mean age of 53 years.<sup>5</sup> Similarly, there was a preponderance of female gender in a study conducted by Bidwai et al.<sup>4</sup> Cho et al have also reported that 58% of their study population composed of females in their Korean subjects.<sup>7</sup> Most of our patients, 36.07%, were between the ages of 41-50 years followed by 33.54% in the age group of 51-60 years. Collectively, 69.61 % of patients of adhesive capsulitis were between the ages of 41 to 60 years showing its higher predilection for these age groups. Cho et al have also showed that majority of their Korean patients, 43%, were between 50-60 years of age while 21.2% were between 40-50 years of age. Collectively, 64% of patients were between 40-60 years of age.<sup>7</sup>

Mean pain score was  $9.82 \pm 4.46$  in our study while it was reported to be 3 (IQ range 1-5) by Bidwai et al.<sup>4</sup> Regarding the duration of the disease, most of the patients, 48.10%, had their disease started in less than six months while 43.04% had their disease for 7-9 months. The mean duration of disease was  $6.83 \pm 1.97$  months in our study. This was similar to what Sharma et al have reported in their study. According to them, median duration of disease was 7 months.<sup>5</sup> Similarly, according to Cho et al, the mean duration of disease was 8.9 months in Korean patients.<sup>7</sup>

## CONCLUSION

Adhesive capsulitis is a clinical condition which predominantly affects females. Diabetic patients have higher risk of this condition. This is a gradually progressive condition in which initially there is pain followed by stiffness and restriction of movements of affected joint and then, resolution. Prompt diagnosis and treatment is of paramount importance in the management of this condition.

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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