ORIGINAL ARTICLE

Age and Gender Distribution in patients with Temporo-mandibular joint ankylosis attending teaching hospitals of Lahore

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ABSTRACT

Background: Ankylosis of the temporomandibular joint (TMJ) is a chronic, debilitating condition that may result in limited to impaired mouth opening, difficulty in chewing the food and inability to perform normal movements of the affected jaw.

Aim: To determine the age and gender distribution and pattern of ankylosis in TMJ.

Methods: This descriptive study was conducted at the department of Morbid Anatomy and Histopathology/ Oral Pathology, University of Health Sciences Lahore, Pakistan. A total of 30 patients diagnosed with TMJ ankylosis were recruited..

Results: Among all the 30 cases recruited for the study it was found that male patients 19(63.3%) were more in number as compare to female patients 11(36.6%). The mean age was found to be 15.43±5.77 years. Bilateral TMJ ankylosis 17(56.7%) was more common than unilateral 13(43.3%). All patients presented with limited mouth opening and a previous history of trauma.

Conclusion: Bilateral TMJ ankylosis is more predominantly seen in maleshaving a mean age of 15.43±5.77 yearsand with a previous history of trauma.

Keywords: Temporomandibular joint (TMJ) ankylosis, age, gender

INTRODUCTION

Temporomandibular joint (TMJ) ankylosis is defined as interference in the mobility of the jaws[1]. Ankylosis of the TMJ is obliteration of the joint space with abnormal bone morphology leading to fusion with the opposing joint components[2].Trauma, in the form of fall or road traffic accident, is the main cause of TMJ ankylosis in Pakistan[1.] Generally, the formation of bony ankylosis takes a long time, ranging from several months to several decades after the occurrence of injury. The disease usually occurs in childhood with roughly equal gender predilections[3]. The disease is manifested by limited to total failure of the movement of TMJ usually resulting post trauma and post-surgery in the majority of cases. It can be due to local infection such as otitis media, mastoiditis or systemic infection such as tuberculosis, scarlet fever, gonorrhea and systemic diseases such as ankylosing spondylitis, rheumatoid arthritis, sickle cell anaemia, psoriasis and fibrodysplasia ossificans progressiva[4]. Diagnosing a case of TMJ ankylosis largely depends upon clinical manifestations rather than diagnostic tests; the common symptoms being, restricted mouth opening, difficulty in mastication and inability to undergo protrusive movements on the involved site[5].

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The treatment of TMJ ankylosis is a significant challenge because of technical difficulties and high incidence of recurrence[6]. The main objective behind the management of TMJ ankylosis is removal of the ankylotic tissue along with restoration of the joint and its normal physiology so as to achieve optimum mouth opening and provide relief of the upper airway obstruction and prevent recurrence[7]. Only 25% of the patients who experience painful temporomandibular joint ankylosis would seek treatment[8]. This study was therefore designed todetermine the frequency and distribution of patients visiting the maxillofacial surgery units in Lahore on the basis of their age groups, gender and type of TMJ ankylosis with which they presented.

SUBJECTS AND METHODS

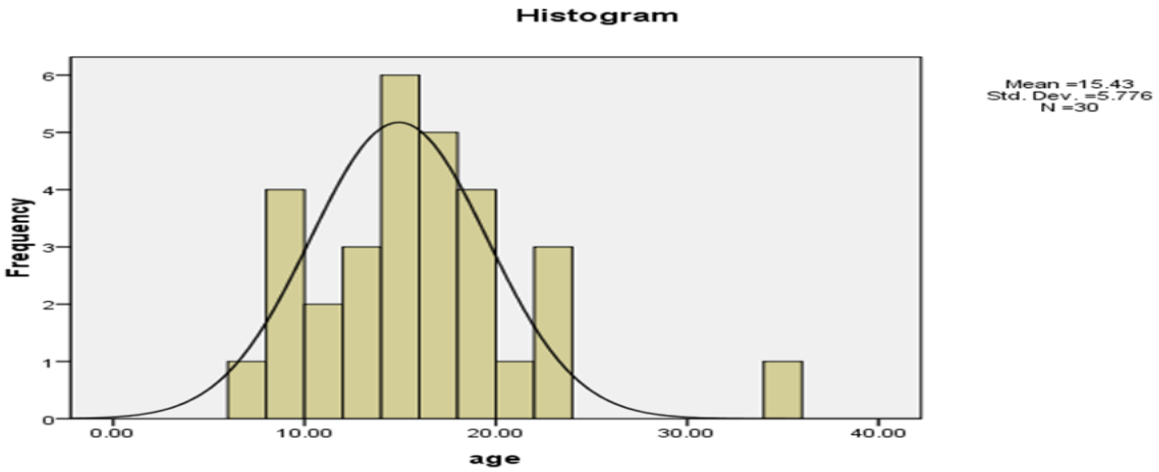
This descriptive study was conducted in the Department of Morbid Anatomy and Histopathology/ Oral Pathology at University of Health Sciences, Lahore Pakistan. A total of 30 patients were recruited from the Oral and Maxillofacial Surgery Department of King Edward Medical University, Lahore and Fatima Memorial College of Dentistry, Lahore Pakistan in one year duration (January to December 2015). These patients reported with limited mouth opening, inability to mastication, poor oral hygiene and deviation of the jaw. Each patient in the research signed an informed consent form.

RESULTS

Among 30 patients the mean age was 15.43±5.77 (Range 7 to 35) years. There were 19(63.3%) males and 11(36.6%) females with male to female ratio of 1.73:1. Among 30 cases, 17(56.7%), presented with bilateral TMJ ankylosis while 13(43.3%), cases were of unilateral TMJ ankylosis. All the patients (100%) presented with history of trauma in the form of fall or road traffic accidents.Patients presented with malocclusion and facial asymmetry. Limitations to mouth opening resulted in inability to eat and masticate.

Fig 1: Pre-operative picture showing right side TMJ ankylosis and facial asymmetry. Arrow shows :the incision margins have been marked for the corrective surgery.

Graph 1: Distribution of temporomandibular joint ankylosis among different age groups. Note that the maximum number of cases reported at the age of 15 years.



DISCUSSION

The ankylosis of TMJ is a common problem in our population that may result as a health risk to patients. The mean age of patients was 15.43±5.77 years and age range was 7-35 years in present study. In another study done by Hossain et al in 2014 in the Maxillofacial Surgery Department of Punjab Dental College, Lahore, Pakistanthe age range reported was 11-20 years for both the genders[11]. Another study done by Latif et al in 2013 in the population of Abbottabad, Pakistan reported the age range between 4-25 years with mean age of 12.94±5.21years[12].The age group of the patients in their study was younger as compare to the present study may be because of the early hospital presentation and children being more prone to traumatic injuries develop ankylosis of the TMJ and also the demographics are different for the people living in Abbottabad and Lahore.

The cause of TMJ ankylosis in all the patients (100%) was trauma in the present study. Another study done by El Sheikh in 1999 in Egyptian populationover a period of 7 years review reported 201 out of 204 patients (98.5%)suffering from TMJ ankylosis with previous history of trauma[9]. Hossain et al in 2014 in their study reported, 47 out of 60(78.3%) of the cases had a history of trauma[11]. This is mainly because males are more prone to road traffic accidents. Females because of their more home bound nature are lesser in number but still are prone to fall. Children affected with ankylosis of the TMJ joint have history of fall from stairs or from roof tops[11]. According to Qudah et al in 2005, major etiological

factor for TMJ ankylosis reported to be trauma (91.2%).[10]Latif et al, 2013 in their study, also reported the same[12].These findings are almost consistent with the results reported in present study.

The bilateral TMJ ankylosis was more common n=17 (56.7%) than unilateral TMJ ankylosis 13(43.3%) in the present study. This difference is again consistent with an epidemiological survey done by Gupta et al in 2012 in India over a period of one year, which reported 6 out of total 10 cases (60%) of bilateral and 4 out of 10 cases (40%) of unilateral TMJankylosis[4].

In the present study the males predominate with 19(63.3%) while the female patients were 11(36.6%) which is again consistent with a study done, over a period of 12 years by Latif et al, 2013 in Abbottabad, Pakistan that reported 90(64.3%) males and 50(35.7%) females out of 140 patients of TMJ ankylosis[12]. On the contrary, in Middle-East, thepredominance has been seen among 52% female patients while the male patients reported were 48%[9] .This gender differences can be due to geographical, environmental and social factors. The increased incidence rate for TMJ ankylosis in Pakistan is due to delay in seeking early medical treatment. Patients due to fear of pain, prolonged immobilization, surgical intervention, ignorance, unavailability of resources and failure to respond to treatment modalities tend to waste time that leads to ankylosis, worsening the Pathology[11].

CONCLUSIONS

Within the limitations of the study, it can be concluded that ankylosis of the TMJ is a gradually developing condition that leads to facial asymmetry and limited mouth opening. Most common age involved was second decade of life. There was male predominance and bilateral ankylosis was more common than unilateral TMJ ankylosis. Trauma in the form of fall or road traffic accident is the major etiological factor for the TMJ to develop ankylosis.

Conflict of Interest: None

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