SDM
College of
Dental Sciences
& Hospital

RADIOGRAPHIC ASSESSMENT OF POSTERIOR SLOPE OF ARTICULAR EMINENCE OF TEMPOROMANDIBULAR JOINT CAUSED BY EDENTULOUSNESS

By

DR. JYOTHI H. M.

Dissertation submitted to the
Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka

In partial fulfillment
Of the requirements for the degree of

MASTER OF DENTAL SURGERY (M.D.S)
In
ORAL MEDICINE AND RADIOLOGY

Under the guidance of

DR. KRUTHIKA S. GUTTAL

$t \cdot 1203$

ASSOCIATE PROFESSOR

DEPARTMENT OF ORAL MEDICINE AND RADIOLOGY

S.D.M COLLEGE OF DENTAL SCIENCES & HOSPITAL

DHARWAD

MAY 2018

i

ABSTRACT

Background: The posterior slope of articular eminence of completely edentulous patients compared to patients with maintained occlusion shows significant flattening.

Objective: The aim of the present study was to radiographically assess the posterior slope of the articular eminence caused by edentulousness using orthopantomograph (OPG) and a possible correlation between the flattening of the eminence and edentulousness. Also to find out whether this deformation is associated with age.

Material and methods: Ninety OPGs taken with Kodak 9000 C Digital Panoramic System were examined in three groups, each comprising of 30 OPGs (Group I: OPGs of patients with maintained occlusion, Group II: OPGs of patients with unilateral edentulousness, Group III: OPGs of edentulous patients) in the age range of 30 to 70 years. The three groups were compared according to dental status, age, sex and side. Measurements were carried out on OPGs in Adobe photoshop 7. The articular eminence inclination relative to the Frankfort plane was measured on both sides. Data were analysed statistically with the unpaired t test between the groups and paired t test within the group ($P < 0.05$). The linear regression test was used to perform the analysis of correlation between the Articular eminence inclination and age, applying the Pearson correlation coefficient.

Results: The highest values of articular eminence were measured in Group I (right side: $35.57^0\pm6.68^0$, left side: $36.45^0\pm6.15^0$), values were somewhat lower in Group II (right side: $35.11^0\pm7.42^0$, left side: $32.89^0\pm7.77^0$) and were the lowest in Group III,(right side $31.54^0\pm5.59^0$, left side: $30.51^0\pm6.68^0$) considering the respective mean, which was significantly lower on both sides when compared between the groups at P < 0.01. The correlation coefficient between age and the flattening of the eminence in Group I, II and III was -0.123, -0.161 and -0.101, respectively on the right side and 0.189, 0.133 and -0.088 on the left side respectively.

Conclusion: The rate of deformation of articular eminence was significantly higher in edentulous patients than in patients with maintained occlusion. The flattening of the articular eminence is significantly higher in completely edentulous patients than in patients with maintained occlusion. However, there was no association between the increasing age and deformation of articular eminence inclination.

KEY   WORDS   : Articular   eminence   inclination,   Edentulousness, orthopantomograph (OPG)