Introduction

Understanding the various mandibular movements and simulating these movements in an articulator is necessary in order to achieve the harmony. The principle employed in the use of articulators is the mechanical replication of the paths of movement of the posterior (condylar guidance) and anterior (Anterior guidance) determinants of mandibular movement.

What is condylar guidance?

Mandibular guidance generated by the condyle and articular disc traversing the contour of the glenoid fossa

Methodology

30 completely edentulous patients were selected using certain inclusion and exclusion criteria. The articular eminence angulation was measured using the guidelines given by Ilan Gilboa et al. 1

Tracing of line AB joining height of superior curvature A and inferior curvature B representing inclination of articular eminence. XY is parallel to FHP. C is angle made by intersection of mean curvature line and horizontal reference line.

Based on the technique used to measure the condylar angulations, three groups were made.

Aim of the study

To compare the condylar guidance angulations obtained from protrusive records (PR), Ortho pantomographic tracings (OPG), to 3- dimensional computed tomographic angiograms (3-D CT) in edentulous patients.

Objectives of the study

- To compare the condylar guidance angulations obtained from protrusive records & OPG
- To compare the condylar guidance angulations obtained from protrusive records and 3-D CT values.
- To compare the condylar guidance angulations obtained from OPG and 3-D CT values.
- To compare the condylar guidance angulations of the right and left sides obtained from protrusive records, OPG and 3-D CT values.

Results

Statistical analysis was done using . Kruskal-Wallis test, Wilcoxon signed rank sum test, Mann-Whitney ‘U’ test

Discussion

Among the various techniques employed in recording the condylar guidance angulations, interocclusal records using the gothic arch tracing is commonly employed. However, Studies by Zamocuna et al, Lundeen and Wirth, Woelfel et al, Hoba and Mochizuki, Preti et al, and dos Santos et al found variations in condylar guidance angles ranging from 5 to 55 degrees when this method was used. Looking at the variations in condylar guidance by the interocclusal record method many clinicians use average condyle guide settings taken from mean published values. But, the mean setting of 30-40 degrees, when this method was incorporated due to resiliency of the movable mucosa. Considering the inaccuracies of the interocclusal record technique with inherent errors of up to 30 degrees, the radiographic articular eminence image may have clinical relevance. Ortho pantomograph may be used as a reliable tool in setting the condylar guidance in semi-adjustable articulators.

Clinical implications

Interocclusal records for recording the condylar guidance in edentulous patients has many in-accuracies incorporated due to resiliency of the tissues and the denture bases resting on movable mucosa. Considering the inaccuracies of the interocclusal record technique with inherent errors of up to 30 degrees, the radiographic articular eminence image may have clinical relevance. Ortho pantomograph may be used as a reliable tool in setting the condylar guidance in semi-adjustable articulators.

References