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Analysis Of Mandibular Angle

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Abstract

Background: Being the only bone which is involved in movement, there is a possibility of its change according to the life style that would be followed in a particular region. It has been observed that there are minute changes in different races, in different geographical regions and so it has become one of the most important bones to be studied in Forensic Medicine. This kind of studies has been seldom done in our population and this study puts in a sincere effort to find the angle in our population.

Aims and Objectives: To study the mandibular angle in bones of this region.

Results: The mean mandibular angle was found to be 133.67 degrees with a standard deviation of ±7.86 degree.

Conclusion: This study successfully reported the angle in the population.

Keyword: Mandibular, angle, forensic, medicine

Introduction

The angle of the mandible is one of the most discussed in the field of anthropology as mandible is a very unique bone and it has evolved through ages. Being the only bone which is involved in movement, there is a possibility of its change according to the life style that would be followed in a particular region. It has been observed that there are minute changes in different races, in different geographical regions and so it has become one of the most important bones to be studied in Forensic Medicine.

The mandibular angle is formed by the meeting point of the base of the mandible and the ramus. Many studies have been made and have been reported especially which suggests the relation between the age and the angle [1]. There is a great deal of variability i.e.135 to 150 degrees at birth; 135 to 140 degrees when the first dentition is finished; 120 to 130 degrees up to the time of eruption of the second molars; and 120 to 150 degrees in old age [2, 3]. Although muscle function should preserve the bony structure of the gonial angle and symphyseal regions irrespective of the dental status and age, the gonial angle has been found to vary with the type of dentition and also with age [4-6].

This kind of studies has been seldom done in our population and this study puts in a sincere effort to find the angle in our population.

Aims and Objectives

To study the mandibular angle in bones of this region.

Materials and Methods

This study was done in the Department of Forensic Medicine, A.J. Institute of Medical Sciences, Mangalore. This study was done from June 2016 to July 2017. 400 mandibles were used for the study. The bones were studied in the Department of Forensic Medicine, the Department of Anatomy and also some bones were studied which were leased by students of MBBS. The mandibular angle is calculated using a goniometer, they were tabulated in an excel sheet for the statistical analysis.

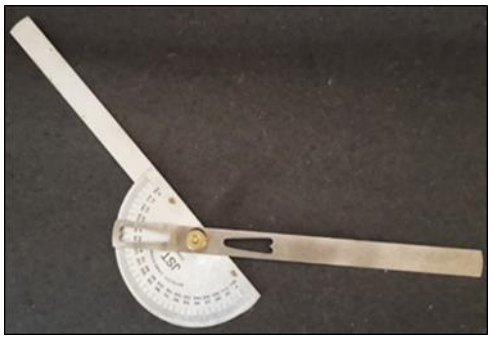


Image 1

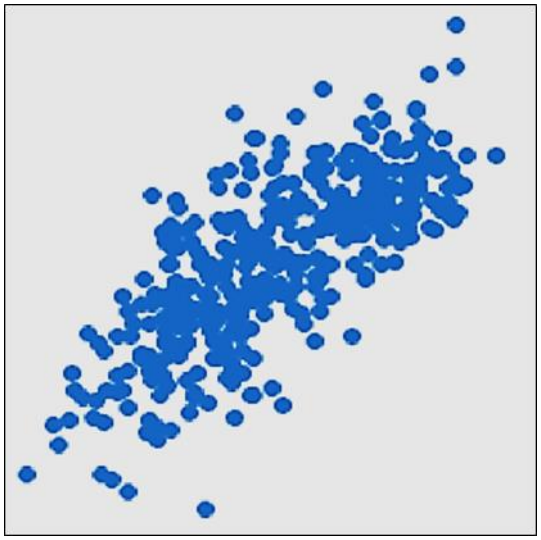
Exclusion criteria

- Damaged bones

Results:

Table 1: Mean angle

Total	Mean angle	Std. deviation
400	133.67 degrees	±7.86 degrees



Graph 1: Median angle (Scatter plot) (133.67 degrees ±7.86 degree)

Discussion

Ohm E and Silness J who found a close positive association between gonial angle and age [7]. Sicher H and DuBrul EL describe a widening of the angle as a consequence of disuse atrophy following the loss of the teeth and even venture the statement that the widening of the angle is more marked if no dentures are worn [8]. On the contrary, concerning the significance of age per se, Lonberg P noted an actual decrease in the angle for both edentulous and dentate groups[9]. Usually the mean angle is 3-5° greater in males [10]. Findings concerning gender differences may also be explained by the fact that, on average, men have greater masticatory force than women[11]. Some study showed no correlation between genders with gonial angle like that of Raustia AM and Salonen mam and Ceylan et al.[12,13]Wafa Al-Faleh could not establish any significant difference between sexes and gonial angle[14].Keen JA supports the concept of a widening of the angle as a consequence of the loss of teeth[15]. Literature holds diverse studies, where a few observed no significant change in gonial angle, with others concluding gonial angle to be greater in edentulous individuals than in dentate ones [16-18].

Conclusion

This study successfully reported the angle in the population. This study was intended to be of great help to practising forensic specialists.

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