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Description of morphometric mandible in patients with panoramic radiograph

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Introduction: Morphometric of mandible consists of two main parts which are the ramus and the corpus. Corpus length and ramus height grow differently according to age and gender.

Objective: The purpose of this study was to determine the growth of mandibular morphometry.

Materials and methods: The method of this research was a descriptive research with secondary data collected from June until December 2014. The number of samples was 84 panoramic radiographs (42 males and 42 females). Each sex group was divided into three groups according to the age. In male, the age groups were classified as 6-13 yrs; 14-16 yrs; and 17-30 yrs. In female, the age groups were classified as 6-11 yrs; 12-14 yrs; and 15-30 yrs. All panoramic radiographs were taken at the Radiology Installation, RSGM UNPAD. All measurements had been done using EzImplant software. The corpus length was measured from gonion to median line of mandible whereas the ramus height was measured from the highest point of condyle to gonion.

Results: Average corpus length in males was 79.98 mm (6-13 yrs), 90.89 mm (14-16 yrs), and 93.22 mm (17-30 yrs). Average ramus height in males was 45.90 mm (6-13 yrs), 56.69 mm (14-16 yrs) and 59.62 mm (17-30 yrs). Average corpus length in females was 75.49 mm (6-11 yrs), 85.85 mm (12-14 yrs) and 87.50 mm (15-30 yrs). Average ramus height in females was 42.92 mm (6-11 yrs), 51.11 mm (12-14 yrs) and 54.03 mm (15-30 yrs).

Conclusions: Based on the descriptive analysis, corpus length and ramus height has a tendency to increase with age. The mean of corpus length and ramus height tends to be higher in males than females. The largest growth occurred during 14-16 years in males and 12-14 years in females. The peak of growth pattern seems similarly in both corpus length and ramus height.

Keywords: Morphometric mandible, Panoramic radiograph