5. MORPHOMETRY OF THE PERMANENT MAXILLARY INCISORS USING CLINICAL AND RADIOLOGIC AL METHODS - A PRELIMINARY STUDY

J.A.C.K. JAYAWARDENA AND M.S. CHANDRASEKERA

Division of Anatomy, Department of Basic Sciences, Faculty of Dental Sciences and Department of Anatomy, Faculty of Medicine, University of Peradeniya.

Morphometric studies using clinical and radiological methods were carried out in the maxillary central and lateral incisors of adult females ranging in age from 25 to 65 years. The teeth were collected from the Dental Clinics during routine dental extractions at the Peradeniya and Kandy General Hospitals. The height (TH) of the individuals was measured at the time of tooth extraction.

The study sample consisted of 20 permanent maxillary central incisors and 20 permanent maxillary lateral incisors. The measurements taken were the total tooth length (TTL), crown length (CL), root length (RL) and the width of the pulp. Periapical radiographs of all teeth were taken using the standard technique. Both clinical and radiological methods were used in the measurement of the central incisors and only the clinical method was used in the measurement of the lateral incisors.

A dental venire calliper and an eyepiece micrometer graticule fitted to a microscope were used in these measurements. The data collected were analysed to find out the relationship between the CL and RL; TTL and TH; and RL and TH. The clinical method showed a relationship of 1:1.1 and 1:1.4 in the crown length and root length ratios for the central and lateral incisors respectively. A ratio of 1:125 was observed in the RL and TH of both incisors and CL and TH of central incisors. The ratio of CL and TH in the lateral incisors was 1:143. The ratio of TTL and TH for the central and lateral incisors was 1:63 and 1:67 respectively.

The measurement of the clinical and radiological methods did not show a significant difference in the RL. The width of the pulp chamber measured at 3 levels in the radiographs showed a gradual reduction from the 25 - 35 years to 36 - 45 years. The data observed in this study will be useful in the assessment of the size of the root canals in incisors in endodontic treatment planning.