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Description of the growth of mandibular 3rd molar in Javanese population

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Introduction: The age estimation is necessary in some cases of disasters in Indonesia. This is because Indonesia is a disaster prone country. Age estimation can be done by several techniques based on the age of the existing teeth in the mouth. The mandibular 3rd molar is the latest eruption and knowing the growth rate of this we can determine a person's age.

Objective: To assess the description of the growth of mandibular 3rd molar in Javanese population.

Materials and methods: The method of this study was simple descriptive. The data used in this research were 500 radiographs for each gender of men and women, which grouped into three age groups, namely 10-15 years, 16-21 years and 22-25 years. The data was collected into 4 category dentition namely 1) the initial calcification, 2) the crown was perfect until ½ length of root growth, 3) perfect crown, dental root length over from half to complete but orifice not closed, 4) crowns and roots growth perfectly.

Result: At the 10-15 years age group, the growth of mandibular 3rd molar was dominated in the category 1 in both female (62%) and male (68%). At the 16-21 years age group, the growth of mandibular 3rd molar was dominated in the category 3 in both female (55%) and male (58%). However, at the age group of 22-25 years, there were different between genders. Women had the growth of teeth dominated in the category 4 (56%), while men had the growth of teeth dominated in the category 3 (51%).

Conclusion: The growth of mandibular 3rd molar has different characteristic in gender that may help determine a person's chronological age.

Keywords: Age estimation, Mandible 3rd molar growth

A new method for modeling of dental arch

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Introduction: It is very important to identify the victims after disasters. Dental arch and dental model identification by using 3D dental cast is one of the methods to identify the victims. One approach is to find out dental casts of the victims, then compare them with homologue dental casts of the victims. However, in this technique, many homologue dental casts are needed to compare.

Objective: To clarify dental arch and to decrease the amount of personal information needed.

Materials and methods: The erupted wisdom teeth were duplicated by using duplicated casts methods (204 dental casts). The data was analyzed by using software (HBM, Digital Smile Design, and Medic Engineering Cerec) and component analysis.

Results: More than 100 components. The first principal component standard ratio was 32.754%. An approximate working data in creating an attrition model using principal component analysis.

Conclusion: Dental arch characterization using homological models are suggested that homology identification.

Keywords: Homologue identification, Dental cast modeling