

Age Estimation Using Atlas Method with Orthopantomogram and Digital Tracing on Lateral Cephalogram

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Abstract : Chronological age estimation can be done by looking at the stage of growth and development of teeth from orthopantomogram and mandibular remodeling from lateral cephalogram. Mandibular morphological changes associated with the size and remodeling during growth is a strong indicator of age estimation. These changes can be observed with lateral cephalogram. Objective: To prove the difference between chronological age and age estimation using orthopantomogram (dental age) and lateral cephalogram (skeletal age). Methods: Sample consisted of 100 medical records, 100 orthopantomograms digital and 100 lateral cephalograms digital belongs to 50 male and 50 female of Airlangga University hospital of dentistry. Orthopantomogram were matched with London atlas and lateral cephalograms were observed by digital tracing. The difference of dental age and skeletal age was analyzed by pair t -test. Result: Result of the pair t-test between chronological age and dental age in male (p-value 0.002, $p < 0.05$), in female (p-value 0.605, $p > 0.05$). Result of pair t-test between the chronological age and skeletal age (variable length Condylion-Gonion, Gonion-Gnathion, Condylion-Gnathion in male (p-value 0.000, $p < 0.05$) in female (variable Condylion-Gonion length (p-value 0.000, Condylion-Gnathion length (p-value 0,040) and Gonion-Gnathion length (p-value 0.493). Conclusion: Orthopantomogram with London atlas and lateral cephalograms with Gonion- Gnathion variable can be used for age estimation in female. Orthopantomogram with London atlas and lateral cephalograms with Condylion-Gonion variable, Gonion-Gnathion variable and Condylion-Gnathion can not be used for age estimation in male.

Keywords : age estimation, chronological age, dental age, skeletal age

Conference Title : ICFOTI 2018 : International Conference on Forensic Odontology and Tooth Identification

Conference Location : Dublin, Ireland

Conference Dates : November 19-20, 2018