

Brazilian Oral Research

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Abstract





[CALDAS, Maria de Paula](#); [AMBROSANO, Gi醬cia Maria Bovi](#) and [HAITER NETO, Francisco](#). New formula to objectively evaluate skeletal maturation using lateral cephalometric radiographs. *Braz. oral res.* [online]. 2007, vol.21, n.4, pp. 330-335. ISSN 1806-8324. doi: 10.1590/S1806-83242007000400009.

The aim of this study was to establish two new formulas for objectively evaluating skeletal maturation of cervical vertebrae in female and male Brazilian subjects using lateral cephalometric radiographs. The sample included 128 girls and 110 boys, aged 7.0 to 15.9 years, from the files of the Oral Radiology Clinic, Piracicaba Dental School, University of Campinas (Unicamp), SP, Brazil. The cervical vertebral bodies of C3 and C4 were traced and measured and regression formulas were developed in order to determine cervical vertebral bone age. Another sample of lateral telerradiographs and hand-wrist radiographs of 55 girls and 54 boys (aged 7.0 to 15.9 years) was used to verify the reliability of the developed regression formulas, as compared with bone age assessed using the Tanner *et al.*¹⁵ (2001) Method (TW3) in hand-wrist radiographs. The analysis of both the boys and girls data (ANOVA) showed no statistical difference between cervical vertebral bone age, bone age, and chronological age, indicating that these formulas can be used in this population ($p = 0.5721$ and $p = 0.6007$ for girls and boys, respectively). Female cervical vertebral bodies of C3 and C4 increased in an accelerated manner from 10 to 13 years. Analysis of the male sample showed that C3 measurements increased in an accelerated manner from 12 to 15 years. The C4 measurements, however, did not increase at all. Using cervical vertebral bone age it is possible to evaluate skeletal maturation objectively in cephalometric radiographs.

Keywords : Puberty; Cervical vertebrae; Growth; Measures.

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