

عنوان مقاله:

Estimating physiologic age using cervical vertebral maturation

محل انتشار:

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خلاصه مقاله:

Objective: The use of lateral cephalometric radiography for evaluating cervical vertebral bone age is a method that can substitute for the hand-wrist radiography method. The aim of this study was to determine the correlation between the cervical vertebral bone age, chronological age and hand-wrist bone age. **Methods:** Lateral cephalometric and hand-wrist radiographs of ۱۲۵ girls (۸-۱۳ wars) who needed orthodontic treatments were chosen. The dimensions of the ۳rd and ۴th cervical vertebral bodies were measured by a digital micrometer caliper with ۰.۰۲-mm accuracy and determined a regression formula to obtain cervical vertebral bone age. The data were collected and analyzed by a stepwise multiple regression analysis, and the results were compared with those obtained using the hand-wrist radiography method. **Results:** Our investigation shows that the correlation coefficient between cervical vertebral bone age and hand-wrist bone age (۰.۷۳۴) is significantly ($p < ۰.۰۱$) higher than that obtained for the relationship between cervical vertebral bone age and chronological age (۰.۳۶۷). The correlation between hand-wrist bone age and chronological age was ۰.۷۰۱. In addition, we show that the average difference (absolute value) between cervical vertebral bone age and hand-wrist bone age (۰.۷۱ ± ۰.۵۹ years) is significantly ($p < ۰.۰۵$) lower than that between cervical vertebral bone age and chronological age (۱.۲۷ ± ۰.۹۲ years). **Conclusions:** By using lateral cephalometric radiography, it is possible to carry out a proper evaluation of skeletal maturity without any need for exposing the patient to extra radiation.

کلمات کلیدی:

Physiologic age, Chronological age, Hand-wrist radiography, Lateral cephalometric radiography, Cervical vertebral bone age

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