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COMPARISON OF THE VALIDITY OF THREE DENTAL METHODS FOR AGE ESTIMATION BASED ON TEETH ROOT TRANSLUCENCY

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The authors declare that they have no conflict of interest.

Background: Age estimation has a very significant role in the identification of human remains both in forensics and anthropological field. The methods used give us the opportunity to determine age in adults and subadults, both dead or alive. Among the numerous dental methods which exist for adults aging, the evaluation of the root translucency is one of the most useful.

Method: The correlation between biological age and dentine transparency is well known, so the aim of this study is to evaluate the same correlation in teeth with pathological processes. 100 extracted single-rooted teeth were analyzed from 69 subjects of known age of white race (35 F, 21 M, 13 of unknown sex). The length of the root, of the dentine transparency and of the loss of periodontal attachment were measured for each tooth and then the estimated age was calculated according to Lamedin, Prince & Ubelaker and Singhal et al methods. These data underwent statistical analysis

Results And Conclusion: This study showed the utility and the applicability of dental methods in forensics, to determine adults' age at the moment of death. Using the Student's t-Test, age estimation was more accurate with Singhal et al and Prince & Ubelaker methods than Lamedin method. The distinction of the sample by gender was very useful, in fact the Prince & Ubelaker method was more precise than the Lamedin one. The Singhal et al method was predictive for the age estimation proving to be reliable in the evaluation of pathological teeth, too.

KEYWORDS: Forensic Odontology, Age Estimation, Teeth root translucency.