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Quantification of tooth wear for age estimation purposes in paleodontology: technical note <u>Ana Družijanić</u> (1), Marin Vodanović (2)

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Tooth wear is caused by attrition, abrasion and erosion and it is well known that there is a positive correlation between the degree of tooth wear and chronological age of an individual. There are numerous methods and indices that have been developed for diagnosing, grading and monitoring loss of dental hard tissues. Some of them are based on a qualitative assessment and other on a quantitative measurement. Grading or scoring systems (qualitative approach) can be very subjective. Quantitative techniques are always considered more objective and reliable but in the same time also more complex and time consuming. The aim of this abstract is to present a simple, computer-based method for metric quantification of tooth wear suitable for age estimation purposes in paleodontology. Occlusal surfaces of teeth of upper and lower jaw were photographed by a digital camera under standardized conditions. Images were transferred to the computer software VistaMetrix Inc. Using this software, areas of exposed dentine on occlusal tooth surfaces were outlined and size of areas of exposed dentine was calculated and expressed in square millimeters. Areas of exposed dentine were correlated to chronological age. This method provides simple, user friendly, fast, reliable, precise and inexpensive metric quantification of tooth wear giving data which are objective and comparable.

Keywords: tooth wear; abrasion; age astimation; paleodontology