

208 SEXUAL DIMORPHISM IN DENTAL CROWN MORPHOLOGY

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Presentation Type: Poster Session

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Objectives: Sex estimation is an important part of forensic odontological investigations. Previous studies on sexual dimorphism are consistent regarding human crown dimensions, with male teeth being larger than female teeth. However, differences in crown trait expression vary across diverse samples. The aim of the present pilot-study was to investigate sex differences in morphological crown traits in a sample drawn from contemporary Croatian population.

Methods: The study sample consisted of plaster casts of 80 male and 80 female dental students. Dental crown traits were evaluated using the Arizona State University Dental Anthropology System. Teeth with pronounced wear, caries, fillings and casting imperfections were not evaluated. For the calculation of intraobserver error rates, observations were repeated on 50 casts after a three month interval. Log-linear analysis was used to test for differences between the sexes.

Results: Shoveling, double-shoveling, tuberculum dentale, metacone, hypocone and the middle trigonid crest expressed a significant sex dimorphism with a probability of 0.01 or lower. Parastyle, protostylid and tuberculum intermedium were too rare to permit statistical analysis. Data for the canine distal accessory ridge are published elsewhere. Intraobserver error with a difference of two grades or more was low.

Conclusions: Results of this study indicate that sex chromosome genes may be involved in the development of discrete crown traits. To apply these findings in forensic contexts, further investigations are needed that involve larger samples and controls for the effects of crown size.

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Signed on 04/16/2014 by **J. DUMANCIC**

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