JOURNAL of FORENSIC ODONTO-STOMATOLOGY
VOLUME 31 Supplement 1 October 2013
Abstract book IOFOS Conference 2013 Firenze

SEXUAL DIMORPHISM IN CANINE MORPHOLOGY

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The authors declare to have no conflict of interest.

Background: ***Different studies have shown that the genes located on sex chromosomes have influence on dental development, including both tooth size and shape. Sexual dimorphism in human canine dimensions is well documented but data on sex dimorphism in canine morphology are scarce. The aim of the present study was to investigate sex differences in canine crown morphology in contemporary Croatian population.***
Method: ***The study sample consisted of male (M) and female (F) dental students, 80 in each group. Distal accessory ridge (DAR) of the upper and lower canines was evaluated on plaster casts using the Arizona State University (ASU) dental anthropology system. Teeth with pronounced wear, caries, fillings and casting imperfections were not evaluated. For the calculation of intra-observer concordance evaluation was repeated after three months on 50 casts. The results were analyzed by log-linear analysis.***
Results: ***Evaluation included 84 F and 105 M upper canines, and 112 F and 100 M lower canines. DAR was more frequent and pronounced on the upper canines ($p<0.000001$). It was found on 66.7% F and 69.5% M upper canines. The trait was more pronounced in males comprising grades 1 to 5, while in females maximum expression grade 5 was not found ($p<0.05$). DAR on lower canines was found on 8.9% F and 41.0% M teeth comprising grades 1 to 4 in both sexes ($p<0.000005$). Intra-observer error was low; difference of two grades or more was found in 7.7% upper and 3.3% lower canines.***
Conclusion: ***DAR showed male-female dimorphism on both upper and lower canines. However, lower canine proved to be better sex indicator. Further investigations on larger sample are needed to make these findings applicable for forensic and anthropologic purposes.***

KEYWORDS**:** Forensic Odontology, Identification, Sexual Dimorphism.