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Dental morphology of individual with congenital syphilis from 16th century

Tomislav Lauc (1,2), Petra Rajić Šikanjić (3), Zrinka Premužić (3), Cinzia Fornai (4), Boris Mašić (5), Marin Vodanović (6)

1 - Department of Anthropology, Faculty of Social Sciences and Humanities, University of Zagreb, Croatia

2 - Department of Otorhinolaryngology and Maxillofacial Surgery, Faculty of Medicine, University of Osijek, Croatia

3 - Institute for Anthropological Research, Zagreb, Croatia

4 - Department of Anthropology, University of Vienna, Vienna, Austria

5 - Zagreb City Museum, Zagreb, Croatia

6 - Department of Dental Anthropology, School of Dental Medicine, University of Zagreb, Croatia

tomislav.lauc@gmail.com

Bone deformities and dental stigmata are the main ways in which congenital syphilis can be diagnosed in archaeological human remains. As the teeth are usually better preserved than bones, dental alterations are valuable markers for the diagnosis of this disease. Some of the distinctive characteristics of congenital syphilis are specific hypoplastic defects that influence to morphogenesis and appear in the form of dental anomalies (Hutchinson's incisors, Fournier's canines, Moon's and Mulberry molars) and nonspecific enamel hypoplastic defects that can reflect general health and living conditions and in cases of congenital syphilis appear on the dental structures that calcify within the first year of life. In this paper we present the results of the analysis of dental remains belonging to a female aged 17 to 20 years recovered from the archaeological site Park Grič in Zagreb, dated to 16th century. The dental remains we consider come from a fragmented maxilla and a very well preserved mandible. These teeth display specific changes associated with congenital syphilis. All first molars show significant enamel defects such as multiple rounded rudimentary enamel cusps and hypertrophy of the enamel surrounding the cusp with agglomeration of masses of globules giving it the appearance of a mulberry. The upper right first molar is reduced in all crown dimensions with respect to the adjacent teeth and the lower right first molar is smaller in overall size than the second molar with reduced cusp size and irregular shape. The thin enamel is infolded and marked dentine exposure is evident on the cuspal tips. All upper and lower incisors present enamel defects in the form of notches on buccal surfaces and incisal edges. The tip of the canine cusp is partially hypoplastic in the form of shallow notch. The teeth described in this contribution show clear alterations typical of congenital syphilis. This individual is so far the oldest archaeological specimen affected by congenital syphilis documented in Europe.

Keywords: congenital syphilis; dental morphology; mulberry molar; hypoplasia