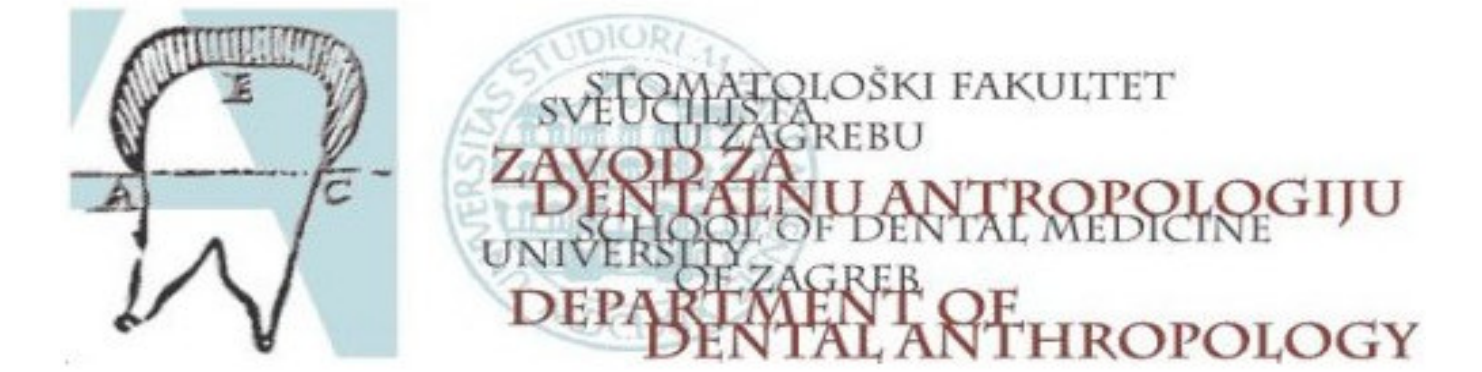


Periapical Health of Croatian Populations during the Late Antique – Early Middle Ages Transition



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Aim

Historical data indicate that the transition from the Late Antique (LA) to the Early Medieval (EM) period had detrimental effect on health of populations living in the area of today's Croatia. The purpose of this study is to analyze periapical health at the transition from the LA (3-5 centuries AD) to the EM (6-10 centuries AD) period in Croatia.

Methodology

The osteological material analyzed in this study was divided into two composite skeletal series originated from 11 sites located in continental Croatia, and along the eastern Adriatic coast. The LA series consists of 193 skeletons and the EM series of 321 skeletons. Periapical lesions were diagnosed macroscopically; their frequency, size and localization was registered.



Map of Croatia with the geographical positions of the analyzed sites



Results

Adult frequencies range from 8.8% in the LA series to 20.1% in the EM series. There was a significant difference in the frequencies of the periapical lesions between the LA and EM series ($\chi^2=4.27$, $df=1$, $p<0.05$). In both series, males exhibit higher frequencies than females, but there was no statistical significant difference. Periapical lesions in the subadult population (<15 years) were not found. The most affected tooth was the first molar both in the maxilla (17.0%) and mandible (28.0%). In the LA series 27.8% of the lesions were smaller than 3 mm in diameter, 69.4% were between 3 and 7 mm, and 2.8% larger than 7 mm. In the EM series 23.4% of the lesions were smaller than 3 mm, 56.3% were between 3 and 7 mm, and 20.3% larger than 7 mm. 93.0% of the lesions were apical lesions and 7.0% were lateral defects.

Conclusion

EM series show significant higher frequencies of periapical lesions and larger dimensions of the defects. Exacerbation of periapical and oral health status confirms historical data about deterioration of living conditions during the EM period.

	Continental LA			Continental EM			Adriatic LA			Adriatic EM		
	O	A	%	O	A	%	O	A	%	O	A	%
Subadults <15	36	0	0,0	48	0	0,0	9	0	0,0	61	0	0,0
Females 15–29	23	0	0,0	31	5	16,1	6	0	0,0	21	1	4,8
Females 30–44	39	3	7,7	18	1	5,6	6	0	0,0	45	8	17,8
Females 45+	12	1	8,3	5	0	0,0	3	1	33,3	26	5	19,2
All females	74	4	5,4	54	6	11,1	15	1	6,7	92	14	15,2
Males 15–29	18	1	5,6	24	0	0,0	1	0	0,0	18	1	5,6
Males 30–44	47	8	17,0	39	4	10,3	13	1	7,7	54	19	35,2
Males 45+	20	2	10,0	10	3	30,0	5	1	20,0	30	5	16,7
All males	85	11	12,9	73	7	9,6	19	2	10,5	102	25	24,5
All adults	159	15	9,4	127	13	10,2	34	3	8,8	194	39	20,1

LA, Late Antique samples; EM, Early Medieval samples; O, number of individuals observed; A, number of individuals with alveolar bone defect

Frequencies of periapical lesions per individual