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CHILDREN'S BURIALS FROM THE EARLY MEDIEVAL RADOM, SITE 4: ANTHROPOLOGICAL CONSIDERATIONS

Abstract: Although the study of prehistoric children's burials is of great interest for historians, archaeologists, and anthropologists alike, many authors have pointed out the scarcity of anthropological research efforts in this area. However, this may be attributable not so much to limited preoccupation with children's burials, as to objective difficulties. This report presents some anthropological considerations concerning the skeletal remains of children from early medieval Radom. The percentage of children's burials in the studied site was determined to be lower than that found for other skeletal series from this period in history, which may be attributed to the fragility of children's remains as well as to incomplete exploration of the burial ground. Still, it should be remembered that interdisciplinary analysis of even scant amounts of skeletal material may expand our knowledge about populations living not only decades, but millennia ago.

Keywords: children's burials, Early Middle Ages, anthropology, cemetery

Introduction

The main limitation of research into developmental phenomena in past populations is the scarcity of children's remains in burial sites (which indicates their underrepresentation). Furthermore, the state of preservation of children's skeletons is usually inferior to that of adult individuals due to factors such as bone composition (low density and greater content of organic compounds), soil pH, and burial rituals[1].

It should also be remembered that it is essential to apply appropriate procedures in the exploration of children's skeletal remains and their conservation to protect the typically poorly preserved bone material from further degradation.

It is thus little wonder that the number of children's burials in many sites is low (much lower than what could be expected given high childhood mortality), especially as regards the youngest children (infants and fetuses).

Characterisation of materials

The osteological material discussed in the present report comes from an early medieval burial ground in Radom. Radom Land is delineated by three major rivers: the Kamienna, the Pilica, and the Vistula. Due to the presence of numerous marshes and bogs, this area was long thought to be practically uninhabited, but that view was revised in the 1960s and 1970s as a consequence of extensive archeological research (previously Radom Province had been one of the least explored regions in Poland with only a handful of archeological sites). The Polish Archeological Record program, initiated in 1978, provided evidence that Radom Land has been inhabited since the end of the Paleolithic, with major settlement development at the time of the Lusatian culture and in the early Middle Ages[2]. The number of early medieval sites in the Radom settlement complex described by J. Gąssowski in 1952 amounted to 47, including churches and burial grounds. Those data were supplemented by H. Sznuro, who explored 35 fortified settlements in the vicinity of Radom, 15 of them accompanied by burial grounds, and subsequently, by E. Kierzkowska and W. Kalinowski in the 1970s. Those research efforts produced data about 1594 early medieval sites, but that number may still increase due to the fact that not all of Radom Land has been subjected to the archaeological program[3].

The early medieval burial ground with 14 inhumation graves was discovered as a result of earthworks conducted in 1923. Research works were continued in 1942, and in 1966 they were extended to both the settlement and burial ground, designated as site 4 by W. Twardowski and located on the outskirts of Radom[4]. The unearthed inhumation graves were aligned in a row with northwest–southeast

[1] Waldron 1987; Saunders 1992, 1-20; Jerszyńska 2004, 8-14; Kozłowski 2004, 79-80.

[2] Fuglewicz 2010, 56.

[3] Fuglewicz 2010, 56-59.

[4] Trzeciecki 2010, 116.

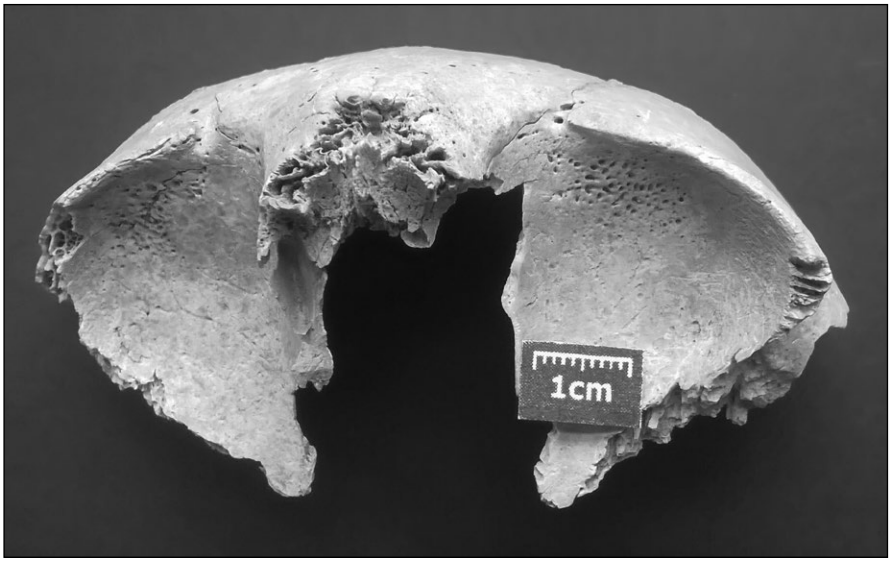

Fig. 1. Radom – grave 19, *cribra orbitalia* in an orbit of a child, aged 5-6. Photo B. Borowska-Strugińska.

orientation. Based on archaeological evidence, the burial ground was dated to the 11th or 12th century[5].

The boundaries of the cemetery were not demarcated, so the completeness of its exploration could not be ascertained. Therefore, the number of children's skeletons and their structure may not be representative of burial sites from that period.

A total of 82 inhumation graves were studied archeologically (in one grave were animal bones). Osteological material was often incomplete and detailed analysis was possible only in a few cases. According to J. Gąssowski, this cemetery was probably used by inhabitants of the suburbium, as indicated by the rather poor grave goods[6].

A total of 81 individuals were identified: 19 (23,6%) as males, 25 (30,8%) as females, 11 (13,6%) as children, and 26 (30,8%) as adults of undetermined sex (due to the insufficient state of preservation of the osteological material). Table 1 shows the age and sex distribution of this population.

The adult population was primarily represented by the *adultus* age group (20.1% of the total), with the *maturus/senilis* age group accounting for only 1.2%. Among children's skeletons, those in the *infans I* category (1.8%) outnumbered *infans II/juvenis* (1.2%).

In the studied population, children's burials constituted only 13.6% of the total, which is less than in other burial grounds from that period in history (Table 2).

As can be seen from the table, the proportion of children's skeletons does not correspond to the actual mortality rate of this age group (infans), which was very high both in the Middle Ages and in the early modern period. The cemetery in Radom, Site 4 was found to contain only one skeleton of infants who died perinatally (a foetus or a newborn) despite the fact that in theory this age group should be particularly well represented. The small percentage of children's skeletons from early medieval Radom may be attributed to the fragility of children's remains as well as to incomplete exploration of the burial ground.

Paleopathological studies show that the most frequent causes of death among children may have been infectious diseases and metabolic disorders[7]. Metabolic disorders such as anemia, rickets, scurvy can leave their mark on the bone material[8]. Some paleopathological changes were also observed in the studied children's skeletons from Radom; these are mainly attributable to metabolic diseases. One of the lesions that reflects developmental disturbances caused by a variety of endogenous and exogenous factors is *cribra orbitalia*. This lesion, characterized by porosity of the orbital roof resulting from different types of anemia (acquired and genetic), but also infections and vitamin deficiencies, was found in two children *infans I* and one child *infans II* in the discussed burial ground, which represents 27% of all the graves of children. Standard of porous lesion's expression coding was used in orbital roof (*cribra orbitalia*) after *Data Collection*[9]. In the study population in one child was reported grade 3 of this changes (Graves 19, Fig.1) and two children in grade 2 (Graves 35 and 47). In one child (grave 37) had hypoplasia (underdevelopment) of tooth enamel. A small number of pathological changes observed may be due fragmentary state of preservation of skeletal remains (Table 3).

Grave furnishings were found in 6 out of 11 children's burials; they included temple rings (Graves 12 and 37),

[5] Skubicha 2010, 105-111.

[6] Skubicha 2010, 106.

[7] Jankowski 1990; Gładykowska-Rzeczycka 1998.

[8] Aufderheide and Rodriguez-Martin 1998, 349-350; Ortner 2003, 383-418; Kozłowski 2008, 100-101.

[9] Data Collection 2005, 8; The scoring system is as follows: 0 No orbits present for observation; 1 Absent with at least one observable orbit; 2 A cluster of mostly fine foramina covering a small area (≤1 cm2); 3 Substantial area (> 1 cm2) covered by small and/or larger foramina with a tendency to cluster together.

Age	Sex						Total	
	Male		Female		Indeterminate			
	N	%	n	%	n	%	N	%
infans I	-	-	-	-	7	18,9%	7	8,7%
infans II	-	-	-	-	3	8,1%	3	3,7%
in II/juv	-	-	-	-	1	2,7%	1	1,2%
juvenis	-	-	-	-	1	2,7%	1	1,2%
adultus	5	26,3%	12	48,0%	-	-	17	21,0%
ad/mat	-	-	3	12,0%	-	-	3	3,7%
maturus	4	21,0%	3	12,0%	-	-	7	8,7%
mat/sen	1	5,3%	-	0,0%	-	-	1	1,2%
senilis	6	31,6%	3	12,0%	-	-	9	11,1%
age?	3	15,8%	4	16,0%	25	67,6 %	32	39,5%
Total	19	100%	25	100%	37	100%	81	100,0%

Tab. 1. Age and sex distribution of identified individuals of this population – Radom, Site 4.

Series	Children		Adults and adolescents		Total		Reference
	N	%	N	%	N	%	
Brzeg Głogowski	10	18,2	45	81,2	55	100	Piontek 1981
Masłowice	20	23,5	65	76,5	85	100	Abramek 1980
Płock-Podolszyce	11	16,6	55	83,4	66	100	Kordala 1992
Daniłowo Małe	6	18,7	26	81,3	32	100	Koperkiewcz 2004
Lubień	36	28,8	89	71,2	125	100	Kurasiński and Skóra 2012
Wrocław (Ołbin)	39	16,7	194	83,3	233	100	Kwiatkowska 2005
Dobrzyń	13	20,3	51	79,7	64	100	Borowska-Strugińska 2003
Kałdus	30	23,1	100	76,9	130	100	Kozłowski and Drozd 2006
Radom	11	13,6	70	86,4	81	100	own data

Tab. 2. Proportion of children in early medieval skeletal series in Poland.

Grave No.	Age	Skull	Extracranial skeleton	Changes disease
12	4-5 years	fragments	fragments	no
19	5-6 years	fragments	only femurs and tibias	*cribra orbitalia*
34	*infansII/juvenis*	no	only tibias	no
35	5-6 years	fragments	fragments	*cribra orbitalia*
36	*infans I/II*	fragments	fragments	no
37	12-15 years	fragments	only femurs and tibias	enamel hypoplasia
47	12-15 years	fragments	no	*cribra orbitalia*
54	*infans I* (about 2 years)	fragments	fragments	no
58	*infans I*	fragments	only femurs and tibias	no
79	4-5 years	fragments	fragments	no
82	foetus/newborn	fragments	fragments	no

Tab. 3. List of children's burials from the cemetery in Radom.

a knife (Grave 58), as well as some shards of clay vessels. Grave furnishings were found in 55% of children's burials, similarly to adults (54.3%, or 38 burials). Detailed information about the grave furnishings are given in a paper by Kurasiński and Skóra[10].

In conclusion, the study of children's skeletons is very important and informative, although many authors emphasize that children's burials are often underrepresented as compared to the estimated mortality rate[11].

[10] See Kurasiński and Skóra in this volume.

[11] Jerszyńska 2004, 8-14; Kozak 2004, 225; Kozłowski 2004, 79-80; Kozłowski and Drozd 2006, 41.

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Streszczenie

Pochówki dziecięce z wczesnośredniowiecznego Radomia – aspekt antropologiczny

W literaturze przedmiotu zwracano dotychczas uwagę na niedostatek opracowań antropologicznych dotyczących pochówków dziecięcych. W badaniach populacji szkieletowych bowiem przez stosunkowo długi czas szczegółowo opisywano głównie szczątki osobników dorosłych.

Niniejsze opracowanie zawiera spostrzeżenia antropologiczne dotyczące szczątków kostnych osobników dziecięcych z wczesnośredniowiecznego Radomia (stanowisko 4).

Na podstawie badanego materiału szkieletowego zidentyfikowano 81 osobników: 19 (23,6%) męskich, 25 (30,8%) żeńskich, 11 (13,6%) osobników dziecięcych, 1 (1,2%) młodociany oraz 25 (30,8%) osobników dorosłych, których płci nie udało się ustalić (ze względu na zły stan zachowania materiału osteologicznego).

Najliczniejszą grupę spośród osobników dorosłych stanowią przedstawiciele wieku *adultus* (20,1%), najmniej liczną wieku *maturus/senilis* (1,2%). W przypadku osobników dziecięcych przeważały szkielety dzieci zmarłych w kategorii wiekowej *infans I* (8,7%), najmniej liczna była kategoria *infans II/juvenis* (1,2%). Na tle badanej populacji pochówki dziecięce stanowiły jedynie 13,6% ogółu.

Wykazano, że na badanym cmentarzysku procent pochówków dziecięcych jest najniższy w porównaniu z innymi seriami z tego okresu dziejów, co może wynikać zarówno ze specyfiki szczątków dziecięcych (delikatności, kruchość kości) jak również częściowego wyeksplorowania cmentarzyska. Nawet u tak małej grupy badanych osobników dziecięcych z Radomia możliwe było zaobserwowanie zmian paleopatologicznych. *Cribra orbitalia* została odnotowana w trzech przypadkach w kategorii wiekowej *infans I* (u dwóch osobników) i jednego dziecka w wieku *infans II,* co stanowi 27% ogółu grobów dziecięcych. U jednego osobnika (grób 37) odnotowano hipoplazję (niedorozwój) szkliwa zębów.