

## ANTHROPOLOGICAL ANALYSIS OF THE SEMMELWEIS STREET CEMETERY AT VÁRPALOTA

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(Received: January 17, 1997)

### Abstract

Anthropological research was carried out on 34 skeletal remains from the Hungarian Conquering Period cemetery at Várpalota, Semmelweis Street. The number of infants was very high (35%). The women exhibited a markedly worse mortality than that of the men. The comparison of the men and the women indicated some differences. The majority of the men had short or very short, wide and low skulls. This same type also occurred among the women, but less frequently. Another type, in almost the same ratio, had a very long, narrow and comparatively low brain-case, with a high and narrow face. These two groups seemed to indicate some traces of social status differences. The variations in cranial build suggested some degree of advance in the mixing of the conquerors and the autochthon population. It is justified to consider some of the women to have been of autochthonous origin.

*Key words:* Várpalota, Hungarian Conquering Period, palaeoanthropology, palaeosociography.

### Introduction

The lack of human findings has made the 10th century history of Veszprém County rather obscure within the context of Hungarian history just after the conquest. The anthropological character of the county's population has no firm outlines in the historical past. Only a pathological description has been published on the Neolithic finding from József Attila Street in the town of Veszprém (BARTUCZ, 1966). Detailed anthropological analyses have been reported on the Celtic Period cemeteries at Csabrendek and Cserszegtomaj (NEMESKÉRI and DEÁK, 1954), the German Period cemetery at Várpalota (MALÁN, 1952), and the Avar Period cemeteries at Veszprém-Jutas and Öskü (BARTUCZ, 1930, 1931). The Avar Period site at Ugod-Huszárokölő has been described only in a pathological case-study (BARTUCZ, 1966). ACSÁDI and NEMESKÉRI (1957) published detailed anthropological data on 42 skulls from the finds at Veszprém-Kálváriadomb, Veszprém-Újtelep and Veszprém-Sashegy, all dated to the 10th-11th centuries. In 1978, KRALOVÁNSZKY and ÉRY started a new excavation to uncover the St. Miklós church completely and to complement the data from the 1929-30 excavation of Rhé at Veszprém-Kálváriadomb. The earliest graves in the Kálváriadomb cemetery were dated to the middle of the 11th century, and the latest to

the middle of the 16th century; these findings therefore provide a picture of the late medieval inhabitants of the town of Veszprém (ÉRY, 1983). No publication is available on any anthropological findings dated expressly to the 10th century. We have now analysed skeletal material excavated S. PERÉMI at Semmelweis Street in Várpalota.

### Material and method

From an excavation in the garden at No. 55, Semmelweis Street in the Loncsos district of the town of Várpalota, the remains of 7 individuals were uncovered in 1985-86 (S. PERÉMI, 1987), then those of 13 persons in 1987 and those of another 15 individuals in 1988 (S. PERÉMI, personal communication).

Though this was only a portion of the original cemetery, there is no possibility to go on with the excavation and so it is justified to publish these findings. The skeletal remains found in 34 graves constitute the object of the analysis. The majority of the graves were oriented in the north-west - south-east direction. The skeletal material is housed at the LACZKÓ DEZSŐ Museum in County Veszprém. The anthropological examinations were carried out in the Hungarian Natural History Museum.

Sex was determined by the complex method of ÉRY et al. (1963). Estimation of age at the time of death was based on the eruption of the teeth for the children (FEREMBACH et al., 1979) and on the size of the long bones (STLOUKAL and HANÁKOVÁ, 1978). For the juveniles, it was determined by considering the ossification of the epiphysis cartilage with juveniles (SCHINZ et al., 1952). The ages of the adults at the time of death were assessed on the basis of the external cranial sutures (MEINDL and LOVEJOY, 1985), by the method of the BROOKS and SUCHET (1990) based on the changes in the surface of the os pubis, by the method of LAMENDIN et al. (1992) based on the transparency changes in the monoradicular teeth and by examining the wear of the masticatory surface of the molars according to the method of BROTHWELL (1963).

The metric characteristics of the skulls and of the skeletons were analysed according to MARTIN and SALLER (1957). The classification of measurements and indices was based on the categories of ALEKSEYEV and DEBETS (1964).

Stature was estimated by the method of SJÖVOLD (1990).

### Results and discussion

#### *Demography*

The remains of 16 subadult and 18 adult individuals were examined. The adult group consisted of 9 males and 9 females. This balanced ratio of the sexes indicated a peaceful and continuously coexisting population. Two of the adult men died at an adult age, 5 died at a mature age, and 2 died at a senile age. Three women died as adults, and 6 at a mature age. Not a single woman survived until senile age. The high ratio (47%) of subadults indicates the poor conditions of life. There were 6 children of infant I age (0-6 years), and another 6 of infant II age (7-14 years). Four persons died at a juvenile age (15-20 years). Sex estimations on this age group revealed 1 male and 3 females.

The trends typical for the Middle Ages held true for Várpalota. The infant mortality was very high: the infants accounted for 35% of the individuals, while the infants and juveniles together accounted for 47%. The women exhibited markedly worse mortality indices than those of the men.

*Anthropometric features*

The individual skull measurements and indices are listed in Tables 1 and 2. The material was extremely incomplete. In a very considerable number of cases, the facial skeleton was damaged and incomplete beyond any possibility of reconstruction. Therefore, conclusions could be drawn only on the basis of the brain-cases.

Table 1. Individual data on males.

Grave Age	2 sen	3 ad	21 juv	23 mat	24 mat	28 mat	30 mat	32 ad	35 sen
M 1	166	-	190	-	187	185	180	-	181
M 1C	169	-	189	-	184	184	178	-	183
M 5	-	-	107	-	104	104	-	-	-
M 8	140	-	141	-	141	148	157	-	150
M 9	97	96	-	-	-	94	-	-	97
M 17	-	-	145	-	135	132	-	-	-
M 20	-	-	-	-	109	116	-	-	-
M 38	-	-	-	-	1408	1518	-	-	-
M 40	-	-	-	-	-	-	-	-	-
M 45	-	-	-	-	-	-	-	-	-
M 46	-	-	-	-	-	-	-	-	-
M 47	-	-	-	-	-	-	-	-	-
M 48	-	-	-	-	-	-	-	-	-
M 51	-	-	-	-	-	-	-	-	-
M 52	-	-	-	-	-	-	-	-	-
M 54	-	-	-	-	-	-	-	-	-
M 55	-	-	-	-	-	-	-	-	-
M 62	-	-	-	-	-	-	-	-	-
M 63	-	-	-	-	-	-	-	-	-
M 65	-	-	123	123	130	-	133	120	-
M 66	-	104	95	102	-	-	104	98	-
M 69	-	34	34	32	-	-	27	28	-
M 70	-	-	60	62	76	-	69	64	-
M 71	-	31	36	33	30	-	34	25	-
8:1	84.33	-	-	-	75.40	80.00	87.22	-	82.87
17:1	-	-	-	-	72.19	71.35	-	-	-
17:8	-	-	-	-	95.74	89.19	-	-	-
9:8	69.29	-	-	-	-	63.51	-	-	64.67
47:45	-	-	-	-	-	-	-	-	-
48:45	-	-	-	-	-	-	-	-	-
52:51	-	-	-	-	-	-	-	-	-
54:55	-	-	-	-	-	-	-	-	-
63:62	-	-	-	-	-	-	-	-	-
Stature (SJOVOLD)	170 cm	164 cm	173 cm	167 cm	180 cm	167 cm	175 cm	167 cm	170 cm

The brain-cases of the men were mostly short or very short. Two of the 6 measurable male skulls were dolichocranic, 2 were brachycranic and 2 were hyperbrachycranic. There were 2 high and 2 low skulls when compared to cranial length. Three foreheads were narrow, and 1 was medium wide. The skull capacity was medium in 2 cases and large in 1 case. The stature also varied between wide margins. The average stature was 170 cm, 1 cm higher than the average stature for the period (ÉRY, 1996).

Table 2. Individual data on females.

Grave Age	1 juv	4 mat	7 mat	10 ad	11 juv	14 ad	18 mat	25 mat	33 ad
M 1	165	188	191	179	167	171	170	185	174
M 1C	-	185	183	179	168	176	173	-	177
M 5	97	98	-	100	91	97	-	102	95
M 8	143	134	140	142	146	143	138	137	138
M 9	91	92	95	103	98	97	100	-	93
M 17	122	130	-	126	130	127	-	129	123
M 20	113	107	110	110	109	-	106	-	110
M 38	1296	1307	1399	1345	1293	-	1268	-	1287
M 40	-	87	-	93	80	95	-	-	95
M 45	-	120	-	130	128	-	-	-	118
M 46	88	-	-	99	97	-	-	-	89
M 47	-	110	-	111	112	-	-	-	112
M 48	-	69	-	66	68	71	-	-	65
M 51	40	44	-	43	40	43	-	-	40
M 52	32	34	-	32	32	35	-	-	29
M 54	21	23	-	27	24	26	-	-	23
M 55	-	48	-	49	49	51	-	-	48
M 62	-	-	-	-	42	-	-	-	46
M 63	37	-	-	-	38	-	-	-	38
M 65	-	116	118	121	113	127	108	115	-
M 66	92	96	100	100	90	95	90	95	-
M 69	28	30	29	29	30	30	32	29	-
M 70	51	59	65	60	60	69	33	63	53
M 71	30	29	30	30	33	28	58	29	28
8:1	86.66	71.28	73.30	79.33	87.42	83.63	81.17	74.05	79.31
17:1	73.94	69.15	-	70.39	77.84	74.27	-	69.73	70.69
17:8	85.31	97.02	-	88.73	89.04	88.81	-	94.16	89.13
9:8	63.63	68.66	67.86	72.53	67.12	67.83	72.46	-	67.39
47:45	-	91.67	-	85.39	87.50	-	-	-	94.91
48:45	-	57.50	-	50.77	53.13	-	-	-	55.08
52:51	80.00	77.27	-	74.42	80.00	81.39	-	-	72.50
54:55	-	47.92	-	55.10	48.98	50.98	-	-	47.92
63:62	-	-	-	-	90.48	-	-	-	82.61
Stature (SjØVOLD)	157 cm	152 cm	152 cm	164 cm	156 cm	158 cm	161 cm	163 cm	156 cm

There were 9 female skulls suitable for analysis. Three of these were very long and narrow (hyperdolichocranic), 2 were medium long (mesocranic), 2 were short (brachycranic) and 2 were very short and very wide (hyperbrachycranic). The women were characterized by rather low skulls. Only the faces of very few individuals could be evaluated, because of the extremely fragmentary condition of the material. The faces of the women were mostly medium high or high, the orbital cavities were low, and the noses were medium narrow. The average stature was 158 cm.

The comparison of the men with the women revealed some differences. The majority of the men had the short or very short, wide and low skulls that predominate in the cemeteries dated to the 10th century in the first settlement territories of the conquering Hungarians in the Great Hungarian Plain and in the Upper-Tisza Region. This same type also occurred among the women, but less frequently. Besides this type, another one displayed almost the same ratio: this was a type with a very long, narrow and compara-

tively low brain-case, with a high and narrow face. These two groups seem to indicate some traces of social status differences. Three of the women had ornamented attire (Graves 1, 11 and 13). One of them (Grave 13) was impossible to examine because of the poor state of preservation; the other 2 were hyperbrachyranic, i.e. not long-headed.

#### *A brief analysis of the cemetery*

Very limited information was found on the sequence of burials. The only skull in the cemetery that displayed symbolic trepanation was in Grave 35 on the edge of the area excavated. Symbolic trepanation was a custom of the conquering Hungarians to the extent that it almost bore an ethnical indicator role. This pagan healing process was spread by the conquering Hungarians. In the 10th century, it occurred almost exclusively in the regions to the east of the Danube. The gradual occupation of the Carpathian Basin spread this custom to Transdanubia. At the end of the 11th century, symbolic trepanation disappeared, together with the other elements of pagan rituals, as Christianity gained power (NEMESKÉRI et al., 1960).

The graves were arranged in lines within the cemetery. The distribution of the adults was by sex, and indicated their burial in the sequence of death or the arrangement of burials by families, as suggested by the cumulative occurrence of certain anthropological features among those buried close to each other. The expressed shovel-shaped upper incisors and the filled-up fossa canina of the individuals in Graves 10, 11, 12 and 13 are two of these features. Shovel-shaped upper incisors are predominantly hereditary Mongoloid characteristics and their cumulative occurrence in persons buried close to each other strongly indicated some kinship. It is noteworthy that the majority of the grave-goods came to light from these graves.

The men buried in Graves 8 and 28 both suffered from hip-joint displasia. This bone deformation is polygenetically hereditary, with a congenital origin. Its occurrence is very rare among adults of historical populations. Two cases in this small, 34-grave sample indicated close kinship.

#### *Palaeosociographic analysis*

ÉRY and KRALOVÁNSZKY (1963) laid the foundations of a new and promising complex approach. They compared the archaeological material of nine 10th-11th century cemeteries from the Székesfehérvár region with anthropological observations on the same cemeteries. Analysis of the the Várpalota Semmelweis Street cemetery according to the same principles permits the following conclusions:

1. The proportion of individuals buried with grave-goods (53%) was almost the same as that of individuals buried without grave-goods (47%). However, there are differences according to sexes and age groups. While 60% of the men received no grave-goods at all, only 33% of the women and 50% of the children were buried without them. All juveniles had some grave-goods.

2. As concerns the numbers of grave-goods, the graves of 3 juvenile women contained the highest numbers. Pressed silver plate diadems, earrings, a silver chain, a bronze button, a shell and a wristlet came to light from Grave 1. Grave 11 contained headdress ornaments, earrings, a bronze button, a shell, a bronze pendant, a buckle,

small metal buttons, armlets, pearls and a needle-holder. An earring, a necklace, small bronze buttons, dress ornaments, wristlets and a ring were uncovered in Grave 13.

3. The grave-goods were categorized into three classes (ornaments and jewels, tools and weapons, and ritual objects) and this led to the following conclusions:

a. Half of the graves with grave-goods contained only dress ornaments or some sort of jewellery; these were all graves of women and children. Women and probably little girls were buried in ornamented dresses and bejewelled. Men were buried in plain clothes, even with no buttons. Adult men wore no jewels at all. There was only one male with a single earring and he was of juvenile age.

b. Only 4 graves contained anything that could be classified as economic tools. One adult man, 1 juvenile man and 1 child of 9-10 years had iron knives, while 1 young juvenile woman had a needle-holder. Two graves contained some sort of weapon: Graves 14 and 30 each held 2 iron arrowheads.

c. Only a cross (Grave 12, Infant II) and a small clay pot (Grave 22, Infant II) could be classified as ritual objects. The former can be considered a Christian, and the latter a pagan ritual object.

d. No grave contained saddlery, horse bones or other animal bones. The characteristic types of objects of the earliest conquering Hungarians were missing from this cemetery. It is a well-known fact that the triumph of Christianity meant the annihilation of ancient pagan practices. The small number of ritual objects, weapons, tools and the limited amount of food buried with the dead indicated that this cemetery preserved remains not of the original conquering Hungarians, but of their descendants from several generations later.

### Conclusions

A comparison of the anthropological material from the Várpalota Semmelweis Street cemetery with that from other series in Veszprém County reveals that the build of the skulls is most similar to that at the Veszprém-Sashegy site (ACSÁDI and NEMESKÉRI, 1957). The population buried at Veszprém-Kálváriadomb had a much higher ratio of short and very short-headed individuals (ÉRY, 1983). This has much more to do with brachycephalization than with the differences in the populations. The Veszprém-Kálváriadomb population probably lived several centuries later; as throughout medieval Europe, in Hungary, this was the period of the phenomenon (its background is still unclear) of the shortening of the shape of the head in a given population (RÖSING and SCHWIDETZKY, 1978).

The sociographic and anthropologic characteristics of the people buried in the cemetery at Várpalota Semmelweis Street indicated that they could be descendants of the conquering Hungarians from the end of the 10th century and from the 11th century. The oldest part of the cemetery was probably located in the area to the west of Grave 35 and the graves uncovered represented the later part of the population. The variations in cranial build seemed to point towards some degree of advance in the mixing of con-

querors and the autochthonous population. It is justified to consider that some of the women were of autochthonous origin. It is not probable that long-headed, autochthonous elements could be descendants of the Várpalota langobards. While the langobard skulls were characterized by a predominance of the Nordic type, besides dolichocrany (MALÁN, 1952), the dolichocranic skulls at Várpalota Semmelweis Street were of the gracile Mediterranean type.

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