Anthropological and Cultural Features of a Skeletal Sample of Horsemen from the Medieval Necropolis of Vicenne-Campochiaro (Molise, Italy)

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A B S T R A C T

In the medieval necropolis of Vicenne (Italy) among 130 skeletons, thirteen horsemen, recognized on the basis of the contextual burials with horse, have been found. This rite, rarely found in Europe, recalls an Asian rite, attested from the Iron Age to the Age of Migration in nomadic Asian populations. Local and Germanic goods were also found. In order to study the anthropological composition of this population, some morphometrical skeletal features have been analyzed. Heterogeneity both in the horsemen and in the other males of the necropolis has been observed. Besides the multicultural context testified by archaeological data, a multiethnic society seems to emerge by the anthropological analysis. In these Italian territories, involved by migrations, Asian and Germanic population probably crossed with the local ones.

Introduction

The early medieval necropolis (7th–8th C.) of Vicenne-Campochiaro is an important site in Central Italy because of the presence of material attributable to the Asian cultural context in addition to the Lombard one[1,2]. In fact the discovery of 13 graves of man and horse, of which 12 were contextual, attests to an Asian ritual documented for the Iron Age from Siberia to Mongolia, from Transcaucasia to Hungary[3,4] until the Age of Migrations (4th–10th C.) in peoples of Central Asian origin like the Huns, Avars, Mongols and Magyars. Moreover, the presence of stirrups, a typically Avar and innovative element in strategic-military evolution, raises the question of its possible earlier use and diffusion into Europe, until now known only from the 8th century[5]. These elements have prompted the hypothesis

of the presence of an ethnically varied group in the community of Vicenne[5].

In relation to the ascertained multicultural context[5], the study of the anthropological composition of the population of Vicenne, especially the horsemen, seems to be interesting. Thus the purpose of the present study was to analyze some morphometric features of the horsemen compared with those of the rest of the population to observe if, besides of the cultural features, it is possible to note some anthropological characteristics different from the other males.

Materials and Methods

From the 167 graves discovered in the cemetery of Vicenne in successive excavation campaigns starting in 1987[2,6], 130 skeletons were retrieved for anthropological study. Among these, 13 graves of horsemen have been recognized on the basis of archaeological evidence (graves 16, 29, 33, 66, 73, 79, 85, 81, 109, 110, 141, 150, 155). Only the individual of the grave 109 has been found without horse, but the armour and the horse harness complex buried with him, testify that he was a horseman[1,2]. According to the archaeologists no indications about the site and size of the settlement have been reported. In fact, the necropolis was though as related to a nomadic people[7].

Unfortunately many of the skeletons of the horsemen were in no good state of preservation. Our anthropological observations refer to 9 of them (graves 16, 29, 33, 66, 79, 81, 109, 141, 150, 155).

After the restoration of the skeletal materials, the age and sex were diagnosed by anthropological methods, even though the bad preservation state of some skeletons made difficult to assess the diagnosis for all the specimens. However sex was assessed by morphological features of the os coxae and skull[9–13]. The age in the subadults were estimated by the dental calcification and eruption and union of epiphyses[11] and classified in infants (< 3 years), children (4–12 years) and adolescents (13–20 years) as proposed by Buikstra e Ubelaker[13]. In the adults the age was estimated by macroscopic methods as cranial suture closure[14,15] and morphological changes of the pubic symphysis[16]. Each adult individual was assigned to three age classes: young adult (AG = 20–34 years), mature adult (AM = 35–50 years) and old adult (AV = > 50 years)[13]. The class adult (A) was assigned in the case of age indeterminate.

Moreover we observed the cranial shape (according to Frassetto[17]), measured a set of cranial and postcranial characteristics and then calculated the main cranial and postcranial Indexes[18]. The stature was estimated applying the formulae of Breitinger[19] for the male sample, since those have been derived from a male sample of the Central Europe, of Telkkä[20] tested on a Finnic sample, of Manouvrier[21] and Pearson[22] since those can be compared with other skeletal series of the literature. For each individual the mean of the stature values, according to the different methods, was inferred from the lengths of the long bones of the limbs. The morphometric features of the skeleton of grave 33 had been previously studied[23].

For the purpose of our work we considered at the moment only the horsemen and the other males of the necropolis, even though all the individuals, therefore also the females, have been analyzed. The results of the study of the whole necropolis are in preparation.

The horsemen sample is analyzed separately from that of the other males. To test the differences between the horsemen and the other males of the necropolis, t-Student's test was applied. Moreover, a subset of 40 variables – 3 cranial (cranial length and breadth, minimum frontal breadth) and 37 postcranial (all of

the girth and diameters of the humerus, radio, ulna, femur and tibia) – for which the proportion of missing data among the skeletons considered was < 20%, were subjected to Principal Coordinate Analysis (PCA). Considering the preservation state, 46 skeletons – seven of which horsemen (16, 29, 33, 81, 109, 141, 150) – were analyzed. The analysis was conducted using the package NTSYSpc vers. 2.02h, © 1986–98, Applied Biostatistics Inc. For each variable, rows data were first standardized using the stand procedure; Euclidean distances among skeletons were calculated using the simint. The distance matrix is double-centered, and then it is factored and plotted showing the objects in a 2-dimensional space.

Results

In the Table 1 sex and age distribution of the sample of the necropolis is shown. The total sample consists of 38% males, 33% females and for about 30% individuals it was not possible to determine their sex. In the last group, there are 29 among infants and children and 3 adolescents (25%). Among the children (4–12 years), 23 of them died between 4 and 8 years of age. Considering that these data refer to the skeletal material available and that there are at least nine graves without human remains, but attributable to children (Ceglia, personal comm.), the mortality of children and adolescents exceeded 30%. Therefore the death ratio of infants plus children is about 4:10 as related to adults, indicating a difficult growth. These data are comparable with other estimated for the medieval European popolutations[24] that indicated that the infantile mortality ranged from 15% up to 50% in European and in particular Italian population in the High Middle Ages. In some Hungarian graves the infantile skeletons arise about 40% of the total samples[25].

The adult sample consists of about 75.4% of individuals, among them 41 (41.8%) are youngs, 15 (15.3%) are matures and 22 (22.4%) are olds, while for 20 (20.4%) individuals it was not possible to estimate the age.

In the horsemen sample the age ranged from 15–18 years (grave 155) to mature-old (grave 16, 81, 150). The horsemen of the graves 29, 66, 109 were in middle age, whereas the horsemen of graves 33 and 141 were young adults.

TABLE 1
SEX AND AGE DISTRIBUTION OF THE SAMPLE OF THE NECROPOLIS
OF VICENNE

	M	F	Sex indeterminate	Total
AG	21	17	3	41 (41.8%)
AM	9	6	–	15 (15.3%)
AV	11	10	1	22 (22.4%)
A	6	9	5	20 (20.4%)
Total adults	47 (47.9%)	42 (42.8%)	9 (9.2%)	98 (75.4%)
Infanti	–	–	2	2 (6.2%)
Bambini	–	–	27	27 (84.4%)
Adolescenti	2	1	–	3 (9.4%)
Total subadults	2	1	29	32 (24.6%)
Total	49 (37.7%)	43 (33.1%)	38 (29.2%)	130

Fig. 1. Superior view (top) of the cranium of graves 109 (left) and 150 (right) of the necropolis of Vicenne. Anterior view (bottom) of the cranium of the graves 109 (left) and 150 (right).

The bad preservation state of the content of grave 79 made possible to assess a generic adult age.

Morphometric features of the skull

The group of horsemen (Table 2) includes, according to the Frassetto's method, individuals with a wide (brachimorphic) cranium (graves 16, 79, 109, 150, 155) (Figure 1) and some with a narrow (dolichomorphic) one (graves 29, 33, 66, 81, 141) (Figure 2). As regards the cranial Index four horsemen (graves 16, 109, 150 and 155) show brachycrany while those of graves 29, 66, 81 and 141 show dolichocrany (Table 2). The horsemen of graves 66 show the lowest (66.4) value of dolichocrany in comparison with the other males

of the necropolis. There are an orthocranial horseman in graves 29, 33, 81, 155, besides the others show hipsycrany. In three horsemen (109, 141, 150) stenometopy has been calculated, besides the others are metriometopic and eurymetopic. Middle-short face and broad nose are observed in the horsemen of graves 109 and 150. The nose is narrow in the horsemen of graves 16, 29 and 33.

In the rest of the male sample (i.e. horsemen excluded), as far as the morphological cranial feature is concerned, the dolichomorphic shape prevails (about 76%; 13/33 ovoid and 9/33 ellipsoid). Among the brachimorphic shape, four sphenoidal and two subspheroidal crania (Figure 3) have been observed. All the

TABLE 2
PRINCIPAL MORPHOLOGICAL AND METRIC CHARACTERISTICS OF THE HORSEMEN OF
THE NECROPOLIS OF VICENNE (THE NUMBERS IN THE PARENTHESES REFER TO THE
MARTIN'S MEASUREMENTS)

Grave	16	29	33	66	79	81	109	141	150	155
Age	AV	AM	AG	AM	AM	AV	AM	AG	AV	15–18
Cranial shape	WO	O	S	E	Sp	O	Sp	O	Sp	Sp
Indexes										
Cranial (8/1)	80.0	73.9	75.6	66.3	–	71.0	85.3	70.7	80.0	82.9
Porion-bregmatic (20/1) (au)	71.4	60.9	60.6	63.4	–	59.1	72.3	66.2	71.9	69.1
Transverse vertical (20/8(au)	89.2	82.4	80.1	95.6		83.2	84.8	93.6	89.9	83.3
Transverse frontal (9/10)	–	82.1	85.7	–	81.3		77.6	81.8	77.1	81.9
Frontal (9/8)		70.6	69.8	75.0	68.6	70.1	62.9	64.3	61.5	69.3
Facial (48/45)	59.2	55.0	53.8	–	–	–	50.1	–	51.1	–
Nasal (54/55)	48.1	42.3	45.1	–	–	–	54.2	–	50.9	–

O = ovoid; WO = wide ovoid; E = ellipsoid; S = stenopentagonoid; Sp = sphenoid

children show narrow shape (9/9). As far as the cranial indexes are concerned (Table 3), mesocrany is observed in both horsemen and other male samples. Hypsicrany and orthocrany are observed in the horsemen and in the other males respectively. The highest values of brachycrany (84.53) and hypsicrany (67.40) are calculated in the individual of grave 52. In both samples metriometopy is calculated. Moreover only the maximum frontal breath of the males is statistically significantly higher (p = 0.02) than that of the horsemen.

As regards the postcranial indexes of the upper (Table 4) and lower limbs (Table 5) the males (i.e. w/o horsemen) seem to be having the upper limb more robust than that of the horsemen. In particular the maximum length of the right humerus and the robusticity index of the left radius were statistically higher (p = 0.02; p = 0.03) in the males than in the horsemen.

As regards to the lower limb, the femur and tibia do not show significant differences between the samples. Platimery and eurymery were observed in the horsemen and in the other males respectively. All the samples show euricnemy. No differences of the robusticy indexes were observed.

Fig. 2. Superior view of the cranium of the horsemen of the graves 66 (top) and 141 (bottom) of the necropolis of Vicenne.
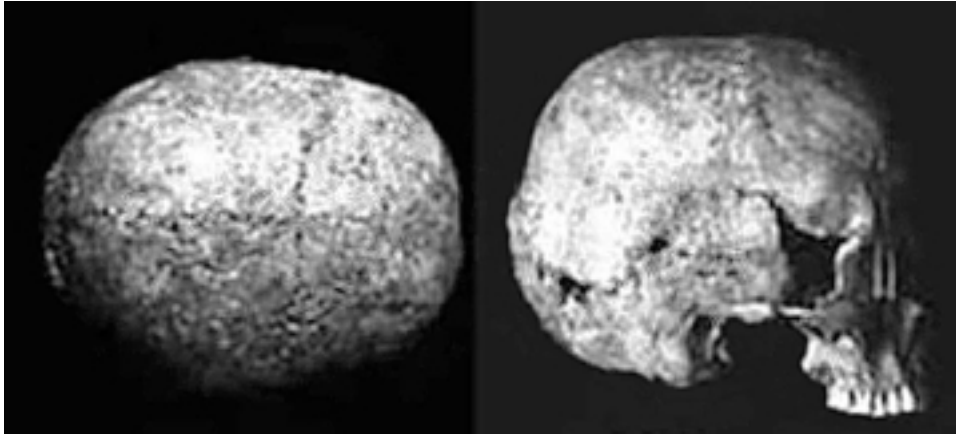
Fig. 3. Superior and lateral view of the cranium of the individual of the grave 52 (M, AG) of the necropolis of Vicenne.

TABLE 3

AVERAGE, STANDARD DEVIATION, VARIATION RANGE OF THE PRINCIPAL INDEXES OF THE CRANIUM OF THE HORSEMEN AND THE OTHER MALES OF NECROPOLIS OF VICENNE (THE NUMBERS IN THE PARENTHESES REFER TO THE MARTIN'S MEASUREMENTS)

Cranium	Horsemen					Males w/o horsemen				
	N	X	SD	V	V	N	X	SD	V	V
Cranial index (8/1)	9	76.20	6.29	66.34	85.31	12	76.18	5.26	67.33	84.53
Porion bregmatic index (20/1) (au)	9	66.08	5.27	59.07	72.32	14	61.62	3.75	54.83	67.40
Transverse vertical index (20/8) (au)	9	86.89	5.38	80.14	95.59	12	78.89	3.46	73.65	86.81
Transverse frontal index (9/10)	7	81.03	3.21	77.10	85.71	12	80.16	3.10	75.20	84.75
Frontal index (9/8)	8	67.94	4.59	61.49	75.00	13	68.49	3.34	64.14	73.72
Facial index (48/45)	5	53.83	3.60	50.00	59.17	2	50.05	2.07	48.59	51.52
Nasal index (54/55)	5	47.10	3.40	42.31	50.91	4	47.79	4.96	43.64	54.90

Even tough the lengths of the segments of the upper and lower limb do not show significant differences between the samples, all the lengths are higher in the other males than in the horsemen of the necropolis.

Stature

In order to evaluate the stature variation in the samples, the Martin's classification (low < 159.9 cm; middle ranged from 160 up to 169.9 cm; high > 170.0 cm) has been utilized. Estimated stature of the horsemen (Table 6) is higher using the method of Telkkä and Breitinger than that obtained with the other methods. In particular the Telkkä's method, probably because calculated on the Finnic sample, shows the highest estimated values. Among the horsemen the highest values has been obtained for that of the graves 16, 33 and 66 with all the methods. However according to the Breitinger's and Telkkä's methods, the horsemen of graves 16, 33 and 66 show high stature (Martin's classification), besides the others fell into

TABLE 4
AVERAGE, STANDARD DEVIATION, VARIATION RANGE OF THE LENGTHS AND THE
PRINCIPAL INDEXES OF THE UPPER LIMB OF THE HORSEMEN AND THE OTHER MALES
OF THE NECROPOLIS OF VICENNE

	Horsemen				Males w/o horsemen				
	N	X	SD	V	V	N	X	SD	V	V
Humerus left										
Maximum length	4	318	11.87	305	333	9	333.7	14.90	313	359
Robusticity index	4	20.33	2.68	17.38	22.68	9	22.46	0.99	20.47	23.36
Cross-section index of the shaft	8	77.92	5.77	68.18	85.00	38	79.70	5.79	68.18	90.63
Humerus right										
Maximum length	3	319	15.46	301	329	7	337.7*	20.56	301	367
Robusticity index	3	22.61	3.01	19.33	25.25	7	23.31	1.08	22.07	25.25
Cross-section index of the shaft	7	81.66	2.83	77.27	85.71	37	79.71	5.26	69.57	90.48
Radius left										
Maximum length	2	243	10.60	235	250	8	252.9	13.42	235	272
Robusticity index	2	19.70	0.40	19.40	20.00	8	21.86*	1.02	20.66	23.73
Cross-section index of the shaft	6	69.45	5.23	63.16	78.79	35	73.40	7.86	64.70	92.31
Radius right										
Maximum length	3	246	12.42	232	254	10	254.1	13.45	232	274
Robusticity index	4	21.48	0.73	20.58	22.27	13	22.27	1.39	20.08	25.00
Cross-section index of the shaft	5	74.06	6.54	64.71	80.00	33	73.20	5.62	60.00	82.35
Ulna left										
Maximum length						6	278.2	7.83	267	288
Robusticity index						8	18.94	1.24	18	21
Platoleny index	2	79.87	2.28	78	81	15	86.61	7.24	74	100
Ulna right										
Maximum length						6	279.8	11.81	269	295
Robusticity index						6	71.52	0.93	18.29	20.58
Platoleny index	2	83.67	0.47	83.33	84.00	18	85.15	8.16	68.97	96.15

* = p-value of Student' t-test (p = 0.03 for the maximum length of the right humerus, p = 0.02 for the right robusticity index)

the middle value class. According to the other two methods all of the horsemen show middle stature. The average values are higher in the males of the necropolis than those of the horsemen (Table 7), even though only according to the Breitinger's and Telkkä's methods, the estimated medium values fell in the high stature class, whereas the other averages values were in the medium class.

Among the other males low values of the stature have been not estimated. In fact according to the Breitinger's and Telkkä's methods, 40.6% and 59.4% (N = 32) and 50% (N = 26) of the individuals showed middle and high stature respectively. Also according to the Manouvrier's and Pearson's methods, that show lower estimated values than those of the formers, no individuals shows low stature. However there are more individuals in the middle stature (76.9%, N = 26) than those in the high stature class (34.6%, N = 26) according to the Manouvrier's method.

TABLE 5

AVERAGE, STANDARD DEVIATION AND VARIATION RANGE OF THE LENGTHS AND PRINCIPAL
INDEXES OF THE LOWER LIMB OF THE HORSEMEN AND THE OTHER MALES OF THE
NECROPOLIS OF VICENNE

	Horsemen					Males w/o horsemen				
	N	X	SD	V	V	N	X	SD	V	V
Femur left										
Maximun length	2	453	24.75	435	470	22	461.0	23.74	427	523
Physiological length	2	448	20.51	433	462	19	457.5	23.14	425	519
Robusticity index	2	12.36	0.49	12.01	12.70	19	12.41	0.63	11.41	13.62
Pilastric index	8	101.60	6.32	89.66	110.71	44	105.79	8.28	89.66	125.00
Platimeric index	6	82.90	16.01	67.57	110.34	27	86.98	16.47	62.86	134.48
Femur right										
Maximun length	4	448	23.64	423	472	21	460.6	28.43	414	516
Physiological length	4	444	22.05	419	464	18	453.1	26.78	414	514
Robusticity index	4	12.57	0.53	11.85	13.13	17	12.55	0.82	10.87	13.77
Pilastric index	8	104.18	8.80	89.66	117.86	41	109.80	9.67	89.66	133.33
Platimeric index	6	76.06	8.49	65.63	88.57	25	88.80	14.90	67.57	123.30
Tibia left										
Total length	2	356	0.7	355	356	13	375.2	25.79	339	432
Robusticity index	1	21.33				11	21.52	1.17	19.90	23.70
Cnemic index	8	73.46	4.34	68.75	80.56	42	71.24	5.33	60.00	83.33
Tibia right										
Total length	4	368	17.29	354	389	19	381.4	23.66	348	431
Maximum length	3	377	17.24	358	392	19	384.6	24.76	345	436
Robusticity index	3	21.76	0.38	21.51	22.19	19	21.81	1.36	19.52	24.35
Cnemic index	8	72.54	5.72	64.29	82.09	39	71.51	4.99	63.89	88.46

TABLE 6

ESTIMATED STATURE VALUES OF THE HORSEMEN OF THE NECROPOLIS OF VICENNE
ACCORDING TO BREITINGER'S (B), TELKKÄ'S (T), MANOUVRIER'S (M) AND PEARSON'S (P) METHODS

Horsemen		Stature (cm)			
Grave	Age	B	T	M	P
16	AV	174.76	172.55	167.30	168.40
29	AM	166.09	167.93	161.60	160.90
33	AG	172.53	172.55	169.00	169.00
66	AM	171.39	173.50	168.32	168.57
109	AM	168.06	168.09	163.74	162.77
141	AG	164.41	162.68	161.69	160.08
150	AV	161.79	163.91	169.12	166.88

In particular the tallest males are those of the graves 52, 145 and 26 that ranged up 185 to 180 cm. The lowest values of stature were estimated in the skeleton of the graves 46. Brachycrany and dolichocrany are represented both in the

TABLE 7
AVERAGE AND STANDARD DEVIATION OF THE STATURE OF THE HORSEMEN AND THE OTHER
MALES OF THE NECROPOLIS OF VICENNE WITH DIFFERENT METHODS

	Horsemen			Males w/o horsemen		
	N	X	SD	N	X	SD
Breitinger	7	168.43	4.68	32	171.62	4.17
Telkkä	7	168.75	4.34	26	171.73	5.53
Manouvrier	7	165.82	3.38	26	169.95	5.71
Pearson	7	165.23	3.86	28	168.52	4.60

tall and low individuals. In particular both the skull of graves 52 and 46 with very high and low stature are characterized by brachycrany, whereas the tall individual of grave 145 shows dolichocrany. The individual of grave 46 shows a sphenoidal shape of the cranium (Figure 4).

In general both the horsemen and the other males samples show certain heterogeneity.

Fig. 4. Superior view of the cranium of the individual of the grave 46 (M, AG) of the necropolis of Vicenne.

Multivariate analysis (PCA)

Because of the bad preservation state of the skeletal sample, the PCA Analysis has been performed on a set of 40 variables – three cranial and 37 postcranial metrical characters among girths and diameters of the long bones. Therefore the analysis could especially refer about limbs robusticity that could also be interpreted as related to the mechanical stress and activity, more than ethnic differences. As we noticed before, unfortunately no lengths can be set in the analysis. The percentage of the eigenvalues is of 79% cumulating the first (41.8%) to the second (37.2%) values. In the plot (Figure 5) the first coordinate is along the abscissa and the second is one along the ordinate. No particular differences between horsemen and the other males have been observed. The horsemen and mostly the individuals plotted along the first coordinate. Only two skeletons (117 and 52) show some differences in comparison with the other males. In particular the skeleton 52 is particularly robust and shows, as saw before, the highest estimated stature in the male samples and the highest value of the cranial and vertical indexes. Finally, it is interesting to underline that the skeleton of a horseman (109), and two males (112, 115) nearly plot. The last two skeletons show some particular features in the skull. In the first (112) a deformation of the occipital
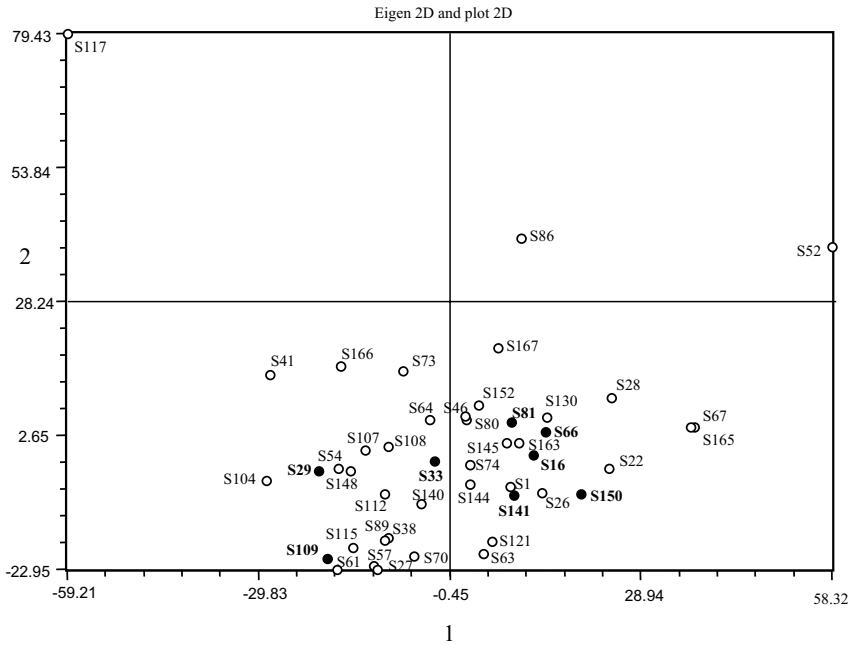
Fig. 5. Plot 2D of the PCA of the skeletons of the necropolis of Vicenne. The spots represent the skeletons and the filled spots refer to the horsemen. The labels refer to the numbers of the graves and the labels bold-faced refer to the horsemen. Along the axes the eigenvectors are indicated.

morphology and of the cranial base, with other morphometric characteristics, could be related to a possible artificial or pathological deformation (Figure 6). In particular the bifronto-occi- pital deformation has been discussed[26] as possible artificial and cultural trait, since the practice of the skull deformation is known in some Eurasiatic population[27]. Moreover the individual of grave 115 shows in the frontal bone a probably symbolic trepanation (data unpublished). These anthropological and cultural features suggest some relationships among those individuals. In this respect it is to be noticed that the graves of these skeletons are also side-by-side placed in the northern area of the cemetery.

However, in general the anthropological analysis points out a common hetero-geneity both in the horsemen and in the other males of the necropolis.

Discussion

The multicultural context of the necropolis was recognized by the presence of both local Germanic and Asian grave goods[5]. Although the chronological and cultural context of the necropolis is Lombard[1], the presence of twelve contextual burials of horse and horseman and of typically Avar stirrups implies Asian rituals[2]. This suggests that the territory in which the necropolis is located was interested by migratory phenomena and that in the community, especially in the horsemen, an ethnic and/or cultural group could be identified, as Genito observed: »It is more credible to have been able to preserve... one's own funerary ideology …
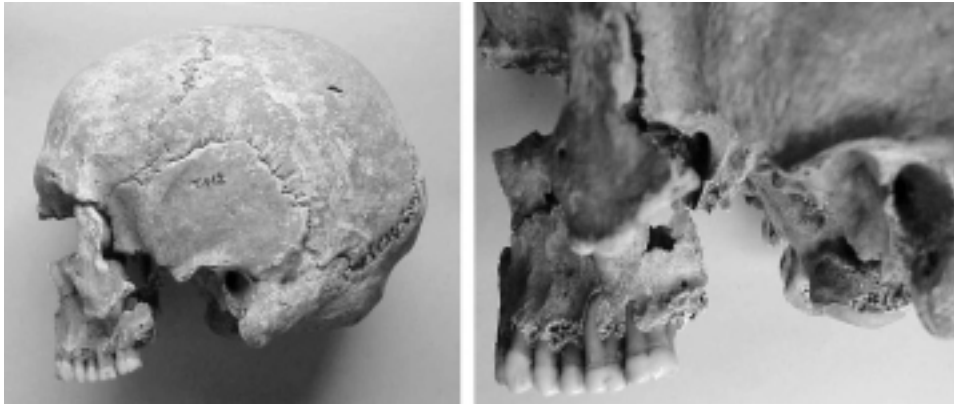
Fig. 6. Lateral view of the cranium (left) and of the cranial base (right) of the individual of the grave 112 (M, AG) of the necropolis of Vicenne.

rather than to have adopted a completely different funeral ideology[5]«. The evidence from the study of the materials of the necropolis is confirmed by historical sources (Paolo Diacono). According to those, the Duke of Benevento in 668 conceded the region of the necropolis of Vicenne, located between Sepino and Bojano (loca deserta) to the Bulgarians. The latter are the so-called »protobulgarians«[1] – Iranian and Turco-Mongolian tribes – that had some ethnic relations with the Avars in the 7th century, whose land (Pannonia) they would have crossed to reach Italy[1].

On the basis of the anthropological features (cranial morphometry, stature and postcranial measurements) of the buried individuals, we observed heterogeneity both in the sample of horsemen and in the remaining specimens. In particular the clear brachycrany, the relatively low nose, the medium-low stature of the horseman of grave 109 and the clear dolichocranium and medium-high stature of the horseman of grave 66 make it difficult to hypothesize the presence of a homogeneous group. Some typically Central Asian characteristics (Turco-Mongolian)[28], especially for the cranial ones, are present, at least in some horsemen (graves 109, 150, 155). The anthropological examination of the rest of the sample presents a similar heterogeneity. In particular, the young adult of grave 52, the tallest (185 cm) of the Vicenne population, presents brachicrany (cranial index value: 84.53), large frontal and very robust postcranial skeleton (Figure 3), and set in a marginal area of the plot (Figure 5) indicating metrical differences in comparison with the other males of the necropolis. The features observed in this specimen resemble those described by Kiszely[29] (Nordic curvoccipital brachycranial), frequent in the Lombard cemeteries of Pannonia, Rugiland and also Italy, preserved during the migrations and generally associated with middle-class warriors[29]. Some characteristics of this individual, such as articular degeneration and enthesiopathies, especially in the lower limbs, can be related to microtraumatic events during military activities[30]. The characteristics of the individual of grave 28, medium-high stature (174 cm) and clearly ellipsoid and narrow cranium with evident supraciliary arch (Figure 7) (»torus-like«[29]) (protonordic), is very frequent in Lombard cemeteries and in graves of the Iron Age and the period of Migrations in Scan-

Fig. 7. Superior view of the cranium of the individual of the grave 28 (M, AG) of the necropolis of Vicenne.

dinavia[29]. On the other hand, the males of graves 89 (166 cm) and 140 (168 cm) have a wide cranium and low or medium-low stature. The sphenoid cranium and relatively wide flat face of the individuals of graves 46 (about 161 cm) (Figure 4) resemble typical Central Asian characteristics found in some horsemen. In the grave of this man very similar goods and weapons to those of the horsemen of grave 33 were found[5], except for a gold ring of this horsemen, which seems to represent a central figure of the necropolis, as chief and/or duke's chamberlain[31,32], probably died for a execution[23].

The anthropological data from the study of Germanic necropolises of Pannonia, Rugiland and Italy[29,33–35] indicate heterogeneity. Kiszely identified in the individuals from the cemeteries of Pannonia and Rugiland, at least 15 frequent typologies, and others derived from crosses with other populations, indicating that the Lombard populations showed heterogeneity even before their arrival in Italy[29].

Moreover, in the 7th–8th centuries, a phase already advanced by the presence of the Lombards in Italy, there was already a probable crossbreed between the Lombards and local populations as confirmed by the archaeological data. In addition, as observed by Azzarra[36] »there is no known specific normative aimed at perpetuating an ethnic division, neither in the laws of Rotari nor in the subsequent ones, since there was no prohibition of mixed marriages« (p.99). Therefore, the heterogeneity observed in the Germanic populations of some European and Italian necropolises seems to be also present in the necropolis of Vicenne, with crossbred between local and Central Asian elements, as well as the heterogeneity of the groups of Nordic provenience.

In this regard, we should also mention the elements, before described, as a traumatic lesion in the frontal bone of the individual of grave 115 (M, AM), as we saw before, which could refer to a ritual symbolic trepanation, a specific ethnic phenomenon typical of the Carpathian Basin after the conquest of the Magyars and the Bulgarian and Hungarian populations[37,38] and rather frequent (32% of 113 crania) in the medieval necropolis of Odartzi (Bulgaria)[39].

In addition, on six horsemen on whom it was possible to observe, we found anomalous lingual wear on the anterior maxillary tooth of three horsemen (graves 16, 66, 109) that does not correspond to that of the mandibular teeth[40] (Figure 8). This feature has been not observed in two young horsemen (graves 155, 141), probably in relation to the age. In fact, this type of wear has been described as LSAMAT (lingual surface attrition maxillary anterior teeth) and is the result of progressive attrition of the lingual surface enamel and even dentine over a long period of time through the introduction of abrasive material between the upper anterior teeth and the tongue[41]. It is interesting to underline that this kind of wear is present in only two other males of the necropolis (data unpublished). This could indicate the use of particular substances by some horsemen, not available to the rest of the population, which could suggest

Fig. 8. Anomalous wear on the lingual surface of the anterior maxillary teeth (top) that does not correspond to that on the anterior mandibular ones (wear only on the incisal surface) (bottom) in the horseman of the grave109 of the necropolis of Vicenne.

the anthropological composition of the represented population and its culture, in a chronological context of transition between late antiquity and the Early Middle Ages.

We found heterogeneity both in the horsemen and in the other males. Both the samples showed morphometric heterogeneity and some individuals present biological characteristics resembling Central Asian typologies. This suggests some crossing between the autochthonous, Germanic and Oriental populations and makes it difficult, if not impossible, to associate specific cultural elements to a particular group.

The multicultural picture[2] observed in the necropolis by the archaeologists does not prevent us from recognizing that the horsemen may have had a special role, as shown, not only by the contextual grave with the horse and some burial goods[2,31,32], but also by the observations of particular habits and behavior (anomalous lingual wear) that could suggest a restricted social group.

We conclude that in the plain between Sepino and Bojano, along an ancient sheep-track between Pescasseroli and Candela, a group, perhaps with characteristics of seminomadism, was present. These areas surrounded the dukedom of Benevento in the Central Italy. Moreover the traumatic and violent events related to war activity[30,43,44] seem to indicate that this group had probably military duties and was organized according to a complex, hierarchical social structure.

the presence of an elite group within the community[40]. Moreover other indications about the central role of the horsemen in the population of Vicenne come out from other studies[1,2,5,6,30,31].

Conclusion

The necropolis of Vicenne is an important site because of its potential for bioarcheological interpretation[26,40,42–44]. Indeed it offers important elements concerning

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ANTROPOLOŠKE I KULTURALNE OSOBITOSTI UZORKA SKELETA KONJANIKA IZ SREDNJOVJEKOVNE NEKROPOLE

U VICENE-CAMPOCHIARO (MOLISE, ITALIJA)

S A Ž E T A K

U srednjovjekovnoj nekropoli u Vicenu (Italija) među 130 skeleta, pronađeno je njih trinaest koji su pripadali konjanicima, što je prepoznato na osnovu konteksta – zajedničkog pokopa s konjem. Ovaj se obred rijetko može naći u Europi i podsjeća na azijske običaje, o čemu postoje dokazi od željeznog doba do vremena migracije nomadskih azijskih populacija. Uz predmete koji pripadaju lokalnom stanovništvu, u nekropoli su pronađeni i oni germanskog porijekla. U cilju istraživanja antropoloških karakteristika ove populacije, analizirane su neke morfometrijske osobitosti pronađenih skeleta. Primijećena je heterogenost kako među skeletima konjanika tako i među drugim muškim skeletima prisutnim u ovoj nekropoli. Osim multikulturalnog konteksta koji se mogao potvrditi pomoću arheoloških podataka, multietničko društvo razvidno je iz rezultata antropološke analize. Stoga se može zaključiti kako se u ovim talijanskim krajevima – zahvaljujući migracijama – lokalno stanovništvo miješalo s azijskim i germanskim populacijama.