IX. TRAUMAS CAUSED BY WEAPONS

TRAUMATIC LESIONS IN HUMAN OSTEOLOGICAL REMAINS FROM THE DAUGAVA AREA (SEVENTH TO 17TH CENTURIES AD)

GUNTIS GERHARDS

Abstract

The purpose of this paper is to report on the incidence of traumatic bone lesions among the population of the River Daugava area in Latvia. A total of 804 skeletons from four cemeteries were analysed. The data obtained indicates that the frequencies of cranial trauma in all the series are similar. Within each population there was a significant difference between males and females with regard to the frequency of traumas. Skeletal traumas of the inhabitants of the Daugava area are not connected exclusively with military conflict.

Key words: bioarchaeology, skeletal trauma, warfare, Daugava area, Latvia.

Introduction

In recent years, there has been increased interest in bioarchaeological research on skeletal series recovered from archaeological sites. Bioarchaeology is the study of human biological remains within their archaeological (cultural) context (Larsen 1997). From this perspective, human skeletal traumatic lesions are a focus of special interest. This interdisciplinary field of research has developed through the mutual interests of physical anthropologists, archaeologists and forensic anthropologists.

Human palaeopathology can be defined as the study of disease in ancient populations by the examination of human remains (Aufderheide, Rodriguez-Martin 1998). Trauma analysis is but one aspect of palaeopathology, but constitutes a large proportion of the research within the field. Next to the almost ubiquitous degenerative changes seen in archaeological specimens, the second most common pathological condition affecting the skeleton is trauma (Ortner, Putschar 1985).

Observable in archaeological material are types of trauma that leave a mark on the skeleton. These include fractures, crush injuries, bony injuries caused by sharp instruments, and dislocations. Studies of trauma in archaeological material tell us about the prevalence of accidents and the degree of aggression in a society. They can also give us an insight into the medical knowledge and level of care in that society (Arcini 1999).

Trauma represents extrinsic influence on the skeleton, which can result from any kind of factor. Accordingly, the types and locations of injuries will vary between individuals within a population. Thus, populations engaged in hunting activities will acquire different types of injuries from settled agriculturalists or town-dwellers. Moreover, women generally differ from men, and children differ from adults (Ortner, Putchar 1985). The study of traumatic lesions of bones provides important information about practices in an ancient population regarding warfare, interpersonal violence, knowledge of the terrain and other aspects of daily life (Aufderhide, Rodriguez-Martin 1998).

In, Latvia, bioarchaeological research has focussed primarily on problems related to palaeodemography (Zariņa 2003) and secular changes in the physical development of the population of Latvia (Gerhards 2003). Pathological changes and especially traumatic lesions in skeletal series from the seventh to the 17th century AD in Latvia have so far received limited attention.

This paper is devoted to the study of one region within the territory of Latvia, the area of the River Daugava, mainly the lower reaches of the river (Fig. 1). The archaeological sites along the Lower Daugava, together with anthropological material and written evidence, provide a picture of historical development and events over the centuries. Based on this data, the causes can be sought for the emergence, development, change or abandonment of settlement sites, and economic and administrative centres, in particular historical periods, and changes in ethnic composition and population demographic structure. The water route along the Daugava and the land route that ran along its bank were

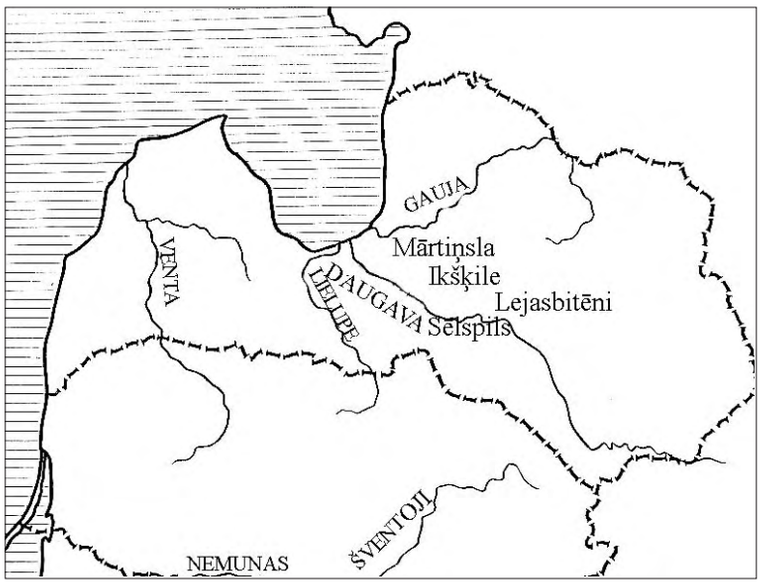

Fig. 1. Location of the skeletal series from the Daugava area.

among the most important routes for trade and transport in Eastern Europe.

During the Iron Age (seventh to 12th centuries AD), the Lower Daugava area was inhabited by various Baltic groups (Semigallians, Selonians and Latgallians) and Finnic groups (Livs). According to archaeological data, in this period the Daugava route remained under the control of the people living in the area around its lower course. The centres along the lower reaches of the Daugava differed in their character. Some were oriented more towards foreign trade and crafts, while others were more important in terms of satisfying the interests of tribal or state structures (Radiņš 2000).

The situation changed at the close of the 12th and in the 13th century, when traders from Western Europe, particularly from Germany, did not wish to accept the intermediary role in East–West contacts played by the inhabitants of the Lower Daugava. As a result of this, a struggle for power began in this area between two Christian denominations: the Roman Catholic and Russian Orthodox Church. The military and ideological struggle between these foreign forces had a destructive and irreversible effect on the lives of the local people. The existing political, administrative and economic system was destroyed, and the battles with the Crusaders brought considerable loss of life. The many feudal wars of later centuries, usually followed by famine, disease and epidemics, worsened even more the living conditions of the population of Latvia, including that of the Lower Daugava area.

The aim of this study is to characterise the seventh to 17th-century inhabitants of the River Daugava area from a bioarchaeological perspective and assess the traumatic lesion data for these people, so as to obtain a more objective picture of their living conditions. The data obtained regarding injuries, disease, etc, could prove very important for studying the burial practices of this period.

Materials and methods

The material of this study consists of 804 skeletons. In spite of the large-scale excavations undertaken at the Late Iron Age cemeteries of the Lower Daugava area, the anthropological material obtained here is very limited in numerical terms. Accordingly, only the material from the cemetery of Lejasbitēni (seventh to tenth centuries) could be utilised for palaeopathological study. At this site, more than 450 graves were excavated by V. Urtāns in 1962–1964.

The composite 13th to 17th-century skeletal series comprised of skeletons recovered from three sites: the churchyards of Ikšķile, Mārtiņsala and Sēlpils (Table 1). Material from two periods was compared.

Table 1. Cemeteries, their date, and the number of skeletons examined

Cemeteries	Date (c. AD)	Number of skeletons
Lejasbitēni	7th–10th	40
Ikšķile	13th–15th	210
Mārtiņsala	13th–17th	405
Sēlpils	13th–16th	149

The criteria for the determination of sex included pelvic and cranial morphology (Buikstra, Ubelaker 1994). Adult age at death was estimated using as many methods as possible, including pubic symphysis morphology (Brooks, Suchey 1990; Gilbert, McKern 1973), aurical surface morphology (Lovejoy *et al.* 1985), ectocranial suture fusion (Meindl, Lovejoy 1985), and changes at the sternal end of the rib (Iscan *et al.* 1984; 1985). In subadults, age at death was estimated on the basis of epiphyseal fusion, diaphyseal lengths, and dental eruption criteria (Scheuer, Black 2000).

Skeletal evidence of trauma was determined by the presence of healed or unhealed fractures. The fractures or injuries have been divided into cranial trauma and postcranial trauma, which is trauma to any bone below the cranium. Head injuries have been divided into cut injuries, from eg a sword or axe, and depression fractures, which could have been caused by a blunt object,

but could also have occurred in accidents where a falling object struck the individual on the head.

The osteological investigation was based on macroscopic examination. The frequency of individuals affected by fractures was calculated from the total number of individuals studied. Some of the skeletons in the present study were incomplete.

In order to evaluate whether the proportion of individuals affected by trauma differs with respect to sex and chronological period, a Chi-square test was employed, with a 5% level of significance.

Results and discussion

Traumatic lesions of the skeleton can be the result of many different factors. This analysis focuses upon traumas resulting from accidents or aggressive actions. The analysed crania from the Late Iron Age cemetery of Lejasbitēni included 31 males and nine females. Analysis of the Lejasbitēni mortality distribution shows two male mortality maximums, at the ages of 15–24 (27.6%) and 40–49 (40.2%). The first of these can probably be regarded as the result of hostilities, which might be connected with the location of the settlement in the proximity of the Daugava waterway (Zariņa 2003).

There are a number of limitations in the interpretation of fracture data. Whereas modern population studies can look at the real age distribution of fractures, in archaeological groups, even though an individual died at a certain age and had a healed fracture, this does not mean that it was sustained at that age; the fracture could have occurred many years before the death of the individual. Determining the type and cause of fractures, in the case of antemortem, well-healed fractures, can be difficult, if not impossible. Because perimortem fracture, like postmortem fracture and breakage, show no evidence of remodelling, the two are difficult to discriminate between (Larsen 1997).

Traces of traumas are not numerous at Lejasbitēni. Only a small number of healed skull wounds were found at Lejasbitēni (Fig. 2). In total, cranial traumas were found on the skeletons of four individuals. Gender differences are marked: traumas were noted only on bones of males. Predominant are traumas to the left side of the frontal and parietal bones of the skull. Thus, the data obtained regarding traumas and injuries among the inhabitants at Lejasbitēni does not confirm the view that mortality among young males relates exclusively to military conflict.

Important for the history of Latvia, and especially for settlement in the Lower Daugava area, were the events

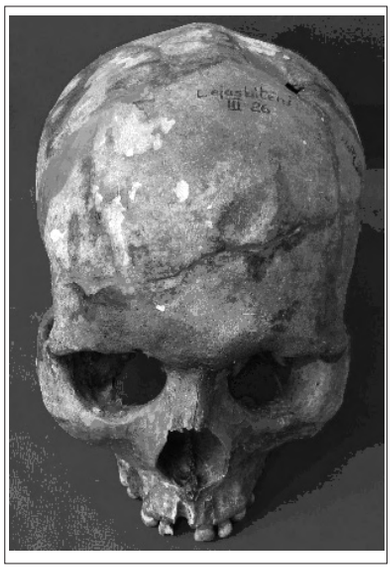

Fig. 2. Lejasbitēni cemetery, grave 26, a male over 40 years. Healed depression fracture of the left frontal bone.

of the second half of the 12th and the 13th century. These are connected with the appearance of German merchants and Crusaders in Latvia. The first stone castles and Christian churches were built at Ikšķile and on

Table 2. Occurrence of trauma in the 13th–17th century material from the Daugava area

	Ikšķile		Mārtiņsala		Sēlpils	
	M	F	M	F	M	F
Cranium	7 (60)	0 (47)	11 (200)	0 (204)	11 (59)	0 (28)
Humerus	0 (55)	1 (49)	0 (60)	0 (47)	1 (52)	0 (31)
Clavicula	5 (41)	0 (40)	–	–	–	–
Radius	2 (44)	1 (46)	1 (41)	0 (32)	0 (44)	0 (28)
Ulna	3 (54)	1 (46)	3 (44)	2 (39)	4 (54)	0 (29)
Femur	1 (59)	0 (47)	2 (107)	0 (71)	1 (54)	0 (32)
Tibia	1 (53)	1 (41)	4 (92)	0 (59)	2 (49)	0 (27)
Fibula	1 (29)	0 (33)	2 (30)	0 (13)	2 (36)	0 (24)

M – males; F – females. Numbers within brackets indicate the number of investigated individuals. The numbers before the brackets refer to the number of fractured bones.

Mārtiņsala Island. This is where the events described in the Livonian Chronicles, the Christianisation and gradual subjection of the local Liv tribes, took place. Historical records tell of a large number of military conflicts between the Crusaders and the natives.

The archaeological complex of Ikšķile (church, churchyard and castle) was excavated in the 1960s and 1970s by J. Graudonis. In the churchyard, over 600 graves were investigated, spanning a period from the 13th to the 15th century.

Fig. 3. Ikšķile churchyard, grave 262, a male aged 40–45. Unhealed multiple fractures of the skull, made with a sword.

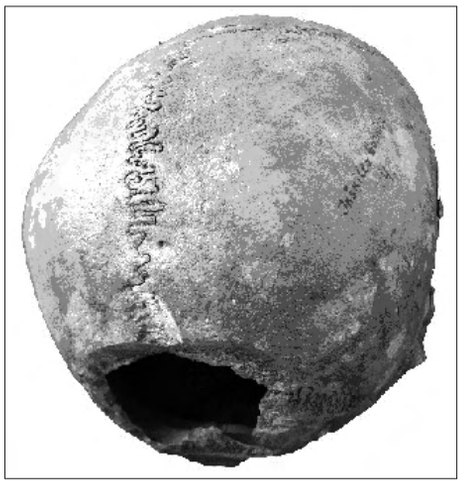

Fig. 4. Ikšķile churchyard, grave 504, a male aged 35–40 years. Unhealed fracture of the occipital bone, which caused the death of this individual.

Injuries to the cranium were observed on seven (6.5%) of the 107 adult individuals of the Ikšķile population, and these cases involve only males (11.7%). No traumatic lesions (cranium and/or postcranium) were found on subadult skeletons. But this cannot be accepted as indicating the true prevalence of fractures in this age group. It is likely that many of these fractures are invisible to the palaeopathologist, because they were probably greenstick fractures, which heal so efficiently and quickly that they are not even visible by radiography (Roberts, Manchester 1995).

With respect to the location of the cranial injuries among the population of ancient Ikšķile, the frontal bone was involved in three cases, the parietal in two, and both bones in one case. In two cases, fractures had occurred in the occipital bone, and two fractures had occurred in the mandible. One type of cranial injury was the depression fracture. In all these cases, the fracture had healed. Some of these depression fractures could have been caused by an accident, in which an object (eg a stone) fell and struck the individual on the head. However, it is more probable that injury resulted from a blow with a blunt object. Cranial injuries resulting from sword- blows had occurred in two out of seven cases, and the individual had presumably died as a result of the trauma, since no sign of healing could be observed. From this point of view, particularly significant is grave 262 at Ikšķile churchyard, with several fatal injuries. Multiple unhealed fractures of the skull (Fig. 3), humerus, scapula and femur had been made with a sharp-edged weapon (sword). It should be noted that this individual was found on the periphery of the churchyard (possibly outside the churchyard itself). In accordance with Christian burial practices, graves outside the cemetery were for punished offenders, criminals, suicides, etc.

In the second case of an unhealed fracture (grave 504), this is a major injury to the occipital bone, suggesting that the blow had been delivered to a fleeing enemy (Fig. 4). This injury is very similar to those found on the skeletal material from the Battle of Visby in 1361 (Courville 1965).

The frequency of bone fractures (13 individuals, excluding fractures of the spine: 9/19 (56%) males and 4/5 (80%) females) at Ikšķile is summarised in Table 2. Of the 210 individuals from Ikšķile, a total of 19.8% (34) exhibited osteological traumas. The difference observed between males, with a proportion of 26/96 (27.1%), and females, with a proportion of 8/76 (10.8%), was statistically significant (Chi-square =6.33; df=1; $p<0.01$). Traces of arm and leg bone fractures are not numerous at Ikšķile churchyard (ten males and four females). Fractures on the distal 2/3 of the ulna were of particular interest. Such fractures ("parry fractures") are considered defensive fractures and occur when an individual shields the face or head with the arm in an attempt to protect themselves from an assailant (Knowles 1983). The difference observed between males and females was not statistically significant.

One section of the inhabitants at Ikšķile was found to have traumas (particularly fractures of the clavicle among males) that are not connected with military conflict, but with economic activity instead. Such healed fractures of the clavicle occur after a heavy fall on the shoulder or arm. It is possible that the bone fractures among males relate to construction work, since lime production from dolomite took place at Ikšķile from the late 12th century onwards, continuing during the next centuries (Jansons 2004). The local people were also involved in the building of the church and castle.

Mārtiņsala Castle was the second stone castle to be built in Latvia. In the 13th century, St Martin's Church was also built near the castle. Archaeological excavation at Mārtiņsala churchyard took place in 1968–1973, undertaken by A. Zariņa and Ē. Mugurēvičs. Two thirds of the area of the cemetery was excavated, and more than 1,800 graves unearthed. The graves span the period from the 13th to the 17th century. Unfortunately, only adult skulls and well-preserved long bones were collected in the course of this excavation.

Historical records provide information about many feudal wars that involved the inhabitants of ancient Mārtiņsala, but skull and skeletal traumas are not numerous at Mārtiņsala churchyard. Gender differences are marked: traumas were noted mainly on the bones of males (Table 2). Eleven individuals (only males) were found to have cranial traumas: in nine cases, the traumas had healed, but in two cases the individual had presumably died as a result of the trauma. Injuries to the skull may be the result of hand-to-hand fighting, where the opponents faced each other, resulting in injuries to the frontal (four cases) and parietal (three cases) bones. Many cranial injuries are found on the left side of the skull. A blow by a right-handed aggressor engaged in face-to-face and hand-to-hand combat would indeed result in an injury to the left side of the head.

The highest frequencies of postcranial fractures among the population of Mārtiņsala were recorded on the ulna, on 3/44 (6.86 %) of males and 2/39 (5.53%) of females whose ulnas were recovered, and on the tibia, on 4/92 (4.34%) of males. All of the observed fractures had healed, some with shortening and malposition. No sign of infection was observed in connection with the fractures. Of the two cases in which both the tibia and fibula were fractured, there was one case of spiral fracture, where the tibia and fibula had been fractured at different levels. This type of fracture can occur from twisting the leg while the foot is fixed (Byers 2002).

Sēlpils was the military and political centre of ancient Selonia. Archaeological evidence shows that it was a major settlement between the tenth and 13th centuries. The archaeological complex of Sēlpils (cemetery, castle and settlement) was excavated in 1962–1965 by E. Šnore and A. Zariņa. The cemetery was located near the castle, which was destroyed at the beginning of the 17th century. Only a quarter of the churchyard (234 graves) has been excavated (Šnore, Zariņa 1980). The burial site was used from the 13th to the 16th century, the most intensive period being from the second quarter of the 13th to the third quarter of the 15th century. Data on 149 individuals was available for bioarchaeological study (78 males, 43 females and 28 children and juveniles), which is about 64% of the total number of graves.

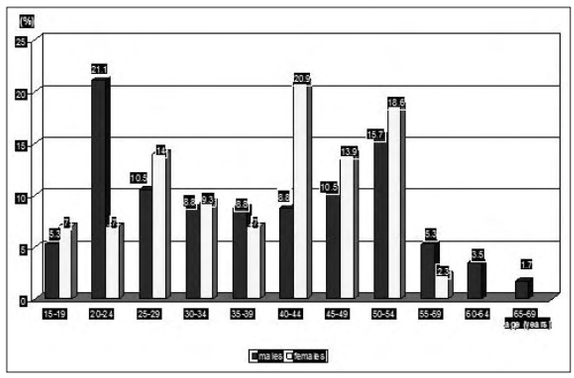

Fig. 5. Adult mortality distribution for Sēlpils churchyard.

Damage to the bones of the skeleton was found only among the male graves, on 17 individuals aged between 19 and 65. Eleven males were found to have traumatic lesions of the skull. In chronological terms, these graves date from the 14th and 15th centuries. These injuries are of various kinds. Injuries resulting from blows with swords or axes occurred in seven cases. In two cases (graves 93 and 233), the skull injuries were the cause of death. It is very interesting that a male (grave 93) who had died a violent death (multiple unhealed fractures of the cranium, both humeri and right tibia) had been buried at the periphery of the cemetery, in accordance with the requirements of Christian tradition. The incidence of skull injuries among the inhabitants at Sēlpils is much higher than, for example, among the inhabitants of Mārtiņsala (Table 2). This indicates that some of these people, like the people buried in the cemetery of Ikšķile, were involved in military conflict.

Palaeodemographic indices for the population represented at Sēlpils Churchyard reflect a very interesting situation: a male mortality maximum at Sēlpils at the age of 20–29 years (31.6 %), with a female mortality maximum (34.8%) at the age of 40–50 (Fig. 5). A significant prevalence of males is observed at the end of the 15th and the beginning of the 16th century. What happened at Sēlpils at this time?

Table 3. Palaeopathological research data for the males buried in Sēlpils churchyard

	Mass graves 16th c. AD	Other graves (13th–15th c. AD)
Traumas	1 (21) 4.8%*	16 (57) 28.1%*
Periosteal lesions of tibia	8 (13) 61.5%*	17 (42) 40.5%*
Porotic hyperostosis *Cribra orbitalia*	9 (21) 42.9%*	9 (38) 23.7%*

* significant difference between groups, Chi-square test.

An analysis of the burials at Sēlpils provides an answer to this question. Six mass burials, with three and seven individuals (25 altogether), were recorded at the churchyard. These are dated to the late 16th century or later. Various possibilities have been considered so far: that they were local people who died of the plague or other epidemics, soldiers killed in the Polish-Swedish War (1627–1628), or victims of punishment (Šnore, Zariņa 1980). The demographic structure of the mass burials is as follows: four adolescents (age at death 15–17 years); 12 young males (17–19 years); eight adult males (20–40 years), and only one elderly male (55–60 years). Bioarchaeological study of the mass burials at Sēlpils shows that these individuals had nothing in common with the local inhabitants of Sēlpils. The people buried in these mass burials were evidently soldiers in an army. No evidence of traumatic lesions was found on the skeletons, so these individuals evidently did not fall in battle. The males buried in the mass burials show a statistically significant higher incidence of non-specific indicators of infection (Table 3). Porotic hyperostosis is a change characterised by a porous or sieve-like surface in the cranial bone or the orbit (Angel 1966). The primary cause is usually iron-deficiency anaemia, which stimulates red blood cell production and bone marrow proliferation (Stuart-Macadam 1992). In the present study, only changes in the roof of the orbit (*cribra orbitalia*) were investigated. In the mass burials at Sēlpils, mild cases of orbital roof involvement were found, suggesting iron deficiency related to infectious diseases and parasitism, which can also affect the occurrence of anaemia. Such causes as scurvy and direct infection cannot be excluded either (Larsen 1997).

Another unspecific marker of stress and deprivation, usually associated with inflammation, is the presence of traces of periosteal reaction. Periostitis involves inflammation of the periosteum, as evidenced by the deposition of new bone on the outer surface of the affected element (Ortner, Putschar 1985). Such periosteal inflammatory reactions, as well as more severe lesions, where bone marrow is affected, are most often caused by such microorganisms as *Staphylococcus* and *Streptococcus*, the tibia being the bone most often involved (Goodman, Martin 2002). The total frequency of periosteal lesions was significantly higher in the males buried in the mass burials (Table 3). This indicates that a proportion of the males buried in the mass burials were exposed to very unfavourable conditions. The possible cause of death could have been disease and poor epidemiological conditions. It cannot be excluded that these are the graves of prisoners of war, who died from starvation, injuries and disease. Unfortunately, it is practically impossible to connect these mass burials with any specific historical event at Sēlpils, since no artefacts were found with the graves, and they cannot be dated precisely. Considering that no graves with gunshot wounds were found at Sēlpils, it is possible that the mass burials are no later than the 16th century.

Conclusions

The investigation of injury morbidity and mortality facilitates the assessment of environmental, cultural and social influences on behaviour. By examining traumatic bone lesions in the archaeological record, we may reconstruct aspects of the physical and social environments of past populations.

This study has focussed on the traumatic lesions of skeletons among the 13th to 17th-century population of the Daugava area in Latvia. The data obtained indicates that the frequencies of cranial trauma are similar in all the series, and such traumas are found exclusively among males. There is only a small amount of evidence of individuals who had been "beaten up" (individuals with several fractures), and the frequencies of defensive "parry" fractures to the ulna was less than 5% to 6% for the series.

The skeletal traumas of the inhabitants of the Daugava area are not connected only with military conflicts, but also with economic activities. In almost all cases, the accidents appeared to have been falls. The accidental traumas occurred mainly to the upper limbs. Further research on skeletal series from the rest of the territory of Latvia is necessary to determine whether the data from these collections confirms this correlation.

Translated by Valdis Bērziņš

Received: 6 December 2006; Revised: 4 May 2007

References

ANGEL, J.L., 1966. Porotic Hyperostosis, Anemia's, Malaria and Marches in the Prehistoric Eastern Mediterranean. *Science*, 153, 760-763.

ARCINI, K., 1999. *Health and Disease in Early Lund. Osteo-Pathologic studies of 3,305 individuals buried in the first cemetery area of Lund 990–1536.* Medical Faculty Lund University, Sweden.

AUFDERHEIDE, A.C., RODRIGUEZ-MARTIN, C., 1998. *The Cambridge Encyclopedia of Human Palaeopathology.* Cambridge University Press.

BROOKS, S., SUCHEY, J.M., 1990. Skeletal age determination based on the os pubis: a comparison of the Ac-

sadi-Nemeskeri and Suchey-Brooks methods. *Human Evolution*, 5, 227-238.
BUIKSTRA, J.E., UBELAKER, D.H., (eds.), 1994. Standards for data collection from human skeletal remains. *Arkansas archaeological survey research series, 44.*
BYERS, S.N., 2002. *Introduction to Forensic Anthropology.* Boston: Allyn and Bacon.
COURVILLE, C.B., 1965. War wounds of the cranium in the Middle Ages as disclosed in the skeletal material from the Battle of Visby (1361 AD). *Bulletin Los Angeles Neurological Society,* 30, 27-44.
GERHARDS, G., 2003. *Secular Variations in the Body Stature of the Inhabitants of Latvia (7th mill. BC–18th cc. AD).* Summary of Doctoral Thesis, Rīga.
GILBERT, B.M., MCKERN, T.W., 1973. A method for aging the female os pubis. *American Journal of Physical Anthropology,* 38, 31-38.
GOODMAN, A.H., MARTIN, D.L., 2002. Reconstructing Health Profiles from Skeletal Remains. *In:* R.H. STECKEL, J.C. ROSE, (eds.). *The Back-bone of History: Health and Nutrition in the Western Hemisphere.* Cambridge, 11-60.
ISCAN, M.Y., LOTH, S.R., WRIGHT, R.K., 1984. Age estimation from the rib by phase analysis: white males. *Journal Forensic Sciences,* 29, 1094-1104.
ISCAN, M.Y., LOTH, S.R., WRIGHT, R.K., 1985. Age estimation from the rib by phase analysis: white females. *Journal Forensic Sciences,* 30, 853-863.
JANSONS, G., 2004. *Ikšķiles viduslaiku baznīca un pils.* Latvijas Vēstures institūta apgāds. Rīga.
KNOWLES, A.K., 1983. Acute Traumatic Lesions. *In:* G.D. HART, (ed.). *Disease in Ancient Man.* Toronto, 61–83.
LARSEN, C.S., 1997. *Bioarchaeology: Interpreting behavior from the human skeleton.* Cambridge University Press.
LOVEJOY, C.O., MEINDL, R.S., PRYZBECK, T.R., MENSFORTH, R.P., 1985. Chronological metamorphosis of the aurical surface of the ilium: a new method for the determination of adult skeletal age at death. *American Journal of Physical Anthropology,* 68, 15-28.
MEINDL, R.S., LOVEJOY, C.O., 1985. Ectocranial suture closure: a revised method for the determination of skeletal age at death based on the lateral-anterior sutures. *American Journal of Physical Anthropology,* 68, 57-66.
ORTNER, D.J., PUTSCHAR, W.G.J., 1985. *Identification of Pathological Conditions in Human Skeletal Remains.* Washington, DC: Smithsonian Institution Press.
RADIŅŠ, A., 2000. Daugavas ceļš un Daugmale. *In: Cauri gadsimtiem. Rakstu krājums veltīts Valdemāram Ģinteram (1899–1979). Latvijas Vēstures Muzeja Raksti,* 7. Rīga, 101-121.
ROBERTS, C., MANCHESTER, K., 1995. *The Archaeology of Disease. 2nd ed.* New York: Cornell University Press, Ithaca.
SHEUER, L., BLACK, S., 2000. *Developmental Juvenile Osteology.* Academic Press, San Diego.
STUART-MACADAM, P., 1992. Porotic hyperostosis: A new perspective. *American Journal of Physical Anthropology,* 87, 39-47.
ŠNORE, E., ZARIŅA, A., *Senā Sēlpils.* Rīga: Zinātne.
ZARIŅA, G., 2003. *Palaeodemography of the Population of Latvia (7th–18th centuries).* Summary of doctoral thesis, Rīga.

VII–XVII AMŽIAUS DAUGUVOS REGIONO GYVENTOJŲ TRAUMINIAI KAULŲ SUŽALOJIMAI

Guntis Gerhards

Santrauka

Straipsnyje supažindinama su antropologinės medžiagos, surinktos archeologinių tyrinėjimų metu keturiuose Dauguvos žemupio kapinynuose, analize (1 pav.). Paleopatologinė analizė apima 804 skeletų duomenis (1 lentelė). Ši osteologinė medžiaga datuojama VII–XVII amžiais. Straipsnis skirtas vienam Latvijos teritorijos regionui – Dauguvai, daugiausia jos žemupiui (1 pav.) – tyrinėti. Archeologiniai Dauguvos žemupio paminklai, kartu su antropologine regiono medžiaga ir rašytiniais šaltiniais, suteikia istorinės šio regiono raidos ir tam tikrų įvykių vaizdą. Remiantis minėtais duomenimis, galima ieškoti gyvenviečių ir ekonominių bei administracinių centrų iškilimo, jų raidos, pasikeitimų ar šių paminklų apleidimo priežasčių, taip pat ištirti etninių gyventojų sudėties ir demografinės struktūros pokyčius tam tikrais istoriniais periodais. Šios studijos tikslas – apibūdinti XIII–XVII amžiaus Dauguvos regiono gyventojus iš bioarcheologijos perspektyvos ir įvertinti trauminius šių žmonių sužalojimus, norint pateikti kuo objektyvesnį vaizdą apie jų gyvenimo sąlygas.

Gauti duomenys rodo, kad kaukolės traumos visoje tirtoje medžiagoje dažniausiai yra panašios. Kiekvienoje populiacijoje tarp vyrų ir moterų traumų dažnumo atžvilgiu buvo reikšmingas skirtumas. Duomenys, gauti nagrinėjant Lejasbitėnų (Lejasbitēni) bendruomenės traumas ir sužalojimus, nepatvirtina požiūrio, kad pagrindinė jaunų vyrų mirtingumo priežastis buvo susijusi su kariniais konfliktais. Keliose XIII–XV a. kaukolėse iš Ikšķilės ir Sēlpilio buvo pastebėtos traumos, paliktos karinių konfliktų (3–4 pav.). Keli ilgųjų kaulų lūžių pavyzdžiai, rasti tarp Ikšķilės kapinyno vyrų kaulų, sietini su dolomito kasimu. Dolomitas Ikšķilės apylinkėse buvo kasamas nuo XII a. pabaigos kelis šimtmečius.

Bioarcheologiniai bendros kapavietės Sēlpilyje (21 įvairaus amžiaus vyras ir keturi paaugliai) tyrimai rodo, kad šie žmonės neturėjo nieko bendra su Sēlpilio gyventojais. Žmonės, palaidoti bendrame kape, matyt, buvo kareiviai. Jų skeletuose nebuvo rasta trauminių sužalojimų požymių, todėl šie individai nebūtinai

žuvo mūšyje. Vyrų, palaidotų bendrame kape, tyrimai rodo statistiškai reikšmingą aukštesnį nespecifinių infekcinių rodiklių paplitimą. Tai rodytų, kad mirties priežastis galėjo būti ligos, susijusios su prasta epidemiologine padėtimi. Taip pat negalima atmesti prielaidos, kad bendri kapai yra karo belaisvių, kurie mirė iš bado, nuo sužalojimų ir ligų.