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THE CASE OF THE PREGNANT WOMAN FROM THE MEDIEVAL SITE OF “PREKO SLATINE” IN OMOLJICA

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Abstract – The paper presents the case of the pregnant woman discovered at the medieval necropolis of “Preko Slatine” in Omoljica, a village near Pančevo. The necropolis is dated to the period of the 12th–13th century AD. It deals with a woman aged 25–30 (probably around 28 years old) in the advanced stages of pregnancy, discovered in grave No. 13. This paper presents the possible conditions that led to the death of this woman, but also the problems faced by anthropologists when they attempt to resolve individual cases like this. In paleodemographic research, the mortality rate of pregnant woman is an important element of a population’s progress. Pregnant woman mortality is considered an adequate criterion for the social and sanitation conditions of a community and a sensitive indicator of health care and, sometimes, the skill level possessed by midwives or doctors.

Key words – South-western Banat, Medieval necropolis, 12th–13th century AD, advanced pregnancy.

The skeletal remains of pregnant women are rarely discovered at archaeological sites. Even in professional literature, a relatively small number of such cases are recorded.¹

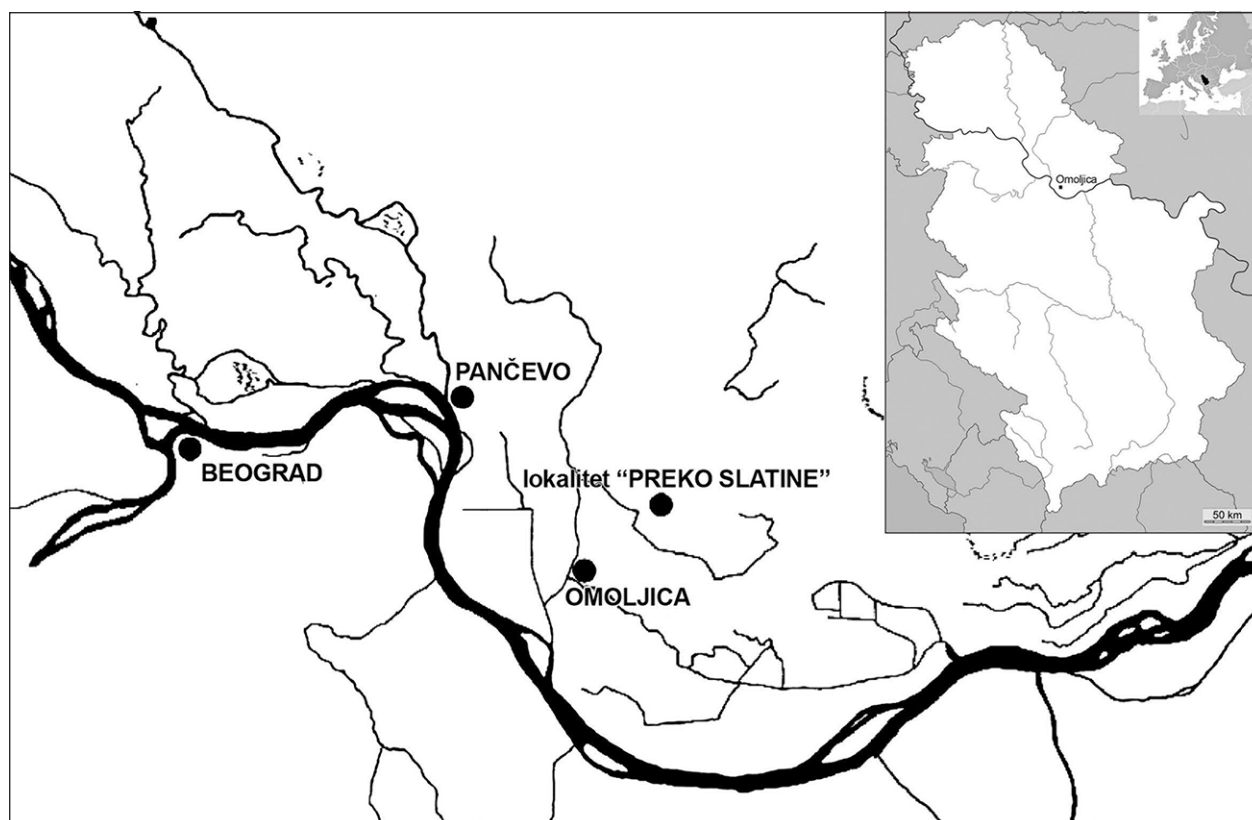
The reasons for this are numerous. Namely, the level of preservation of bones depends on two groups of factors. The first group consists of factors archaeologists have no influence on, such as: disappearance of bones due to disturbances in the soil (erosion) or due to ploughing; chemical composition of the soil, i.e. soil acidity, microbial activity in the soil, the presence of water and soil temperature; natural resistance to destruction of different groups of bones (bones of fetuses, young individuals and older persons are more prone to decay); funeral practices, with regard to whether the de-

ceased are buried carefully or not, intensity of burials (inhumation of newly deceased in old cemeteries), whether the graves were marked or not, the existence of grave constructions, whether or not mother and child were buried together after a birth with a fatal outcome, whether the deceased were mummified or not etc.; looting and destruction of graves and grave constructions, and many other factors.²

¹ Sjøvold *et al.* 1974; Hawkes, Wells 1975; Wells 1978; Owsley, Bradtmiller 1983, Pounder *et al.* 1983, Persson, Persson 1984, Högberg *et al.* 1987, Augustí, Codina 1992; Pol *et al.* 1992; Campillo *et al.* 1998; Malgosa *et al.* 2004; Sequí *et al.* 2005, Flores, Sánchez 2007, Cruz, Codinha 2010, Willis, Oxenham 2011, etc.

² Miladinović 2006, 15–17.

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Map 1. Location of Omoljica and the Medieval site of “Preko Slatine”, with the position of the Republic of Serbia in Europe

Карта 1. Локација Омољнице и средњовековног налазишта „Преко Слатине” на карти са положајем Републике Србије у Европи

The second group of factors relates to the excavation itself and techniques that archaeologists are able to control to a certain degree. The procedures during excavations of human remains at archaeological sites follow a certain pattern: first, the outer layer of soil is removed, followed by “rough” surface cleaning of the skeleton. It is then photographed, documented and removed from the soil. This is when the physical damage of skeletons occurs, as well as the failure to recognise bone fragments in the soil (bones of fetuses can be mistaken for hand bones if the deceased mother’s hands were clasped over the stomach).³ Unfortunately, it happens every so often that bones are damaged in museums after the excavations due to: inadequate “temporary” storage containers, high humidity and temperature fluctuations in rooms where human osteological material is kept. These are mostly attics and basements, as opposed to depots with adequate conditions, etc.

As a result of all the above stated, we believe it is necessary to present the case of the pregnant woman

discovered in grave No. 13 at the site of “Preko Slatine” (Figs. 1–4).⁴

Archaeological context

The village of Omoljica is situated in south-western Banat, 12 km southeast of Pančevo. The archaeological site of “Preko Slatine” is located deep inside the village, around 5 km northeast of the village centre (Map 1). The site is located on the right bank of the channelled and now almost dry riverbed of Slatina. Its position (about 81 m above sea level) is on an elevation, 3–4 m

³ *Ibid.*, 17.

⁴ We express our thanks to our colleagues D. Radičević (Faculty of Philosophy, University of Belgrade) and V. Đorđević (National Museum of Pančevo) for providing us with the archaeological documentation and photographs (Figs. 1–3), and our colleague, N. Dimovski (Municipal Museum of Subotica) for her assistance during archaeological interpretation and photography Fig. 4. Also, we express our gratitude to M. Radmilović for the map of the site (Map 1.) and for the post-production of all illustrations (Figs. 1–4).



Fig. 1. Grave No. 13, the lower part of the pregnant woman's skeleton and the dislocated bones of other individuals (archaeological campaign in 2005)

Fig. 2. Grave No. 13, the upper part of the pregnant woman's skeleton (archaeological campaign in 2006); it can be seen that the digging of grave No. 13 damaged grave No. 67

Сл. 1. Гроб бр. 13, доњи део скелетна трудне жене са дислоцираним костима других индивидуа (археолошка кампања 2005. године)

Сл. 2. Гроб бр. 13, горњи део скелетна трудне жене (археолошка кампања 2006. године); на слици се види да је гроб бр. 13 уколико оштетио гроб бр. 67

higher than the current bank of the Slatina. During the archaeological excavations that were carried out in 2005 and 2006 at the site of “Preko Slatina”, a medieval church and a necropolis were discovered,⁵ among other things. The church was built over the existing necropolis. Most likely, it was built in the last decades of the 12th century or early 13th century. Archaeologists believe that it was in use until the Mongol invasion in the mid 13th century, after which it was demolished and, presumably, never rebuilt.⁶ No burials were observed inside the church.⁷

A total of 158 graves were discovered at the necropolis. Skeletons were discovered at relative depths of 0.56–1.54 m.⁸ Skeletons of children were somewhat more shallow, at depths of 0.56–1.14 m, whereas the skeletons of adults were registered at depths of 0.67–1.54 m.⁹ The deceased were interred without a coffin, in grave pits (rectangular, rectangular with rounded edges, and rarely trapezoidal or ovoid), without any grave constructions,¹⁰ laid on their back with their hands clasped on the stomach, chest or shoulders, or with hands resting next to the body. The graves are

mostly oriented in a southwest-northeast direction, with larger and smaller deviations, mainly matching the orientation of the church.¹¹ In addition to individual

⁵ Ђорђевић *et al.* 2006, 159.

⁶ Каталог изложбе, Панчево 2007, 15.

⁷ Ђорђевић *et al.* 2007, 188.

⁸ Каталог изложбе, Панчево 2007, 13.

⁹ Ђорђевић *et al.* 2007, 188.

¹⁰ The exceptions from the first campaign in 2005 are grave No. 13, where two bricks were placed sideways beside the feet of the deceased, as well as graves No. 11 and No. 15, where the charred remains of wooden flooring upon which the deceased were laid were discovered beneath the skeletons (Ђорђевић *et al.* 2006, 162). Several more graves with bricks placed sideways were discovered during the campaign of 2006 (by the head and feet, and near the torso, femur or tibiae), with remains of wooden boards (along the edge of the pit, along the whole length of the deceased or his upper body and over the bones), but also with the presence of soot and the remains of charred wood (they were discovered at the bottom of the pit, covering the entire surface and serving as flooring onto which the deceased was laid). Several iron cramps were discovered in this campaign, but with only one skeleton, confirming he was buried in a coffin (Ђорђевић *et al.* 2007, 188, 189).



Fig. 3. Grave No. 13, foetal skeletal remains inside the pelvis

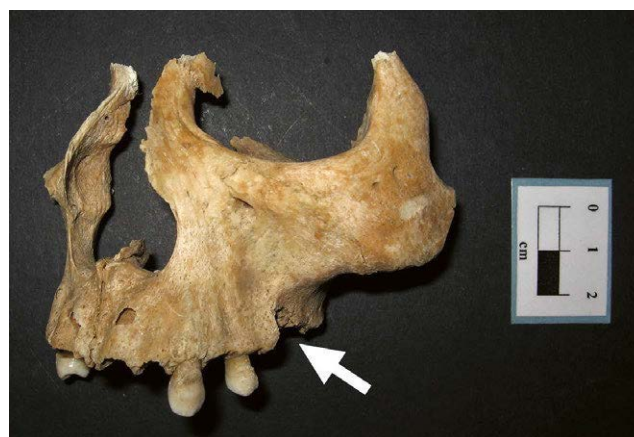


Fig. 4. Grave No. 13, pregnant woman's maxilla (periodontal disease, calculus and periapical cystic cavity)

Сл. 3. Гроб бр. 13, скелетни остаци фетуса у карлици

Сл. 4. Гроб бр. 13, максиле трудне жене (пародонтопатија, каменац и периапикална цистична шупљина)

burials, a large number of dislocated human bones were registered.¹²

The positioning of the graves relative to each, as well as a large number of finds (coins, jewellery and fragments of clothing), mostly next to dislocated bones, points to the conclusion that this necropolis had at least two burial layers. A younger, more frequent burial layer was from the time when the church was still in use. When grave finds are also taken into consideration, it appears that not only do these two burial layers not display significant differences, but that they are chronologically close as well.¹³

Material

During the campaign in 2005, a pregnant woman was discovered in grave No. 13 (Figs. 1 and 3). It was exhumed approximately 2.5–2.6 m south of the southwestern corner of the church. The digging of grave No. 13 damaged grave No. 67, so it can be concluded that grave No. 13 was part of the younger burials in the necropolis (Fig. 2). The deceased was placed in a rectangular pit with rounded edges, at a depth of 1.52 m. The preserved length of the skeleton was 1.17 m. Fragments of two bricks were placed sideways at her feet. The grave was oriented west-east with a deviation of 43 ° to the south. The deceased was laid on her back, with her right arm bent at the elbow and laid down on the chest and the left arm, also bent at the elbow, was placed on her stomach (Figs. 1–3). The only discovered grave find was a silver coin (silver Denarius), 1.1 cm in diameter,

minted during the reign of Bela III (1172–1196) or Bela IV (1235–1270).¹⁴

Methodological framework

During the sex determination on the skeletal material of this adult, we opted for the combination of morphological and metric methods. Special attention was given to the morphological elements of the skull and pelvis, and the operating procedure was taken from European anthropologists,¹⁵ and Buikstra and Ubelaker.¹⁶ We also observed morphological and metric elements when analysing other postcranial bones of the skeleton. The morphological elements that caught our attention were the level of development of: *tuberositas deltoideae*, *tuberositas radii* and *margo interosseus* (of the radius),

¹¹ Ђорђевић *et al.* 2006, 162; Ђорђевић *et al.* 2007, 189; Каталог изложбе, Панчево 2007, 13.

¹² A high intensity of burials is often encountered near religious objects, i.e., interring new deceased into old cemeteries. During analyses, anthropologists often observe traces of so-called old fractures that occurred when moving some bones or entire skeletons aside to make room for the new burial. Skeletons may have been moved aside carefully or recklessly. Thus, for example, a group of bones of at least three adult individuals was noted to the right of grave No. 13, as along with the dislocated bones of an adult individual inside the grave, *Infans I* and *Infans II* (Figs. 1 and 2).

¹³ Ђорђевић *et al.* 2007, 191.

¹⁴ Каталог изложбе, Панчево 2007, 34.

¹⁵ Ferembach *et al.* 1980, 519–527.

¹⁶ Buikstra, Ubelaker 1994, 15–21.

Grave No. 13 Individual I					
CRANIAL SKELETON (CM)				POSTCRANIAL SKELETON (CM)	
PRIMAL CRANIAL MEASUREMENTS		ORBITS*		ATLAS	
Maximum cranial length (g-op)	-	Orbital height	-	Maximum diameter	-
Maximum cranial width (eu-eu)	-	Orbital width (mf-ec)	-	SACRUM	
Basion/bregma height (ba-b)	-	<i>Orbital Index</i>	-	Maximum anterior height	-
<i>Cranial Index</i>	-	MAXILLA		Maximum anterior width	-
<i>Cranial Length-Height Index</i>	-	Maxilloalveolar length (palatal length) (pr-alv)	5.30	<i>Sacral Index</i>	-
<i>Cranial Width-Height Index</i>	-	Maxilloalveolar width (palatal width) (ecm-ecm)	-	STERNUM	
<i>Mean Height Index</i>	-	<i>Maxilloalveolar Index</i>	-	Manubrium height	-
<i>Approximate Cranial Size</i>	-	PALATE		Manubrium width	-
Porion-bregma height	-	Palatal width	-	Mesosternum length	-
Basion-porion height	-	Palatal length	-	Mesosternum width	-
<i>Mean Porion-Height Index</i>	-	<i>Palatal Index</i>	-	Width of I sternebra	-
<i>Index of Flatness of the Cranial Base</i>	-	MANDIBLE		Width of II sternebra	-
Minimum frontal width (ft-ft)	-	Mandibular length	-	Width of III sternebra	-
<i>Fronto-Parietal Index</i>	-	Bicondylar width (cdl-cdl)	-	Width of IV sternebra	-
Basion-prostion length	-	Bigonial width (go-go)	-	SCAPULA*	
Basion-nasion length	-	Height of ascending ramus	-	Spine length	-
<i>Prognathic Index</i>	-	Minimum width of ascending ramus	-	Length of supraspinosus line	-
FACIAL SKELETON		Height of mandibular symphysis (gn-idi)	-	Glenoid cavity length	-
Total facial height (n-gn)	-	Thickness of mandibular body	-	Maximum length	-
Upper facial height (n-alv)	-	Height of mandibular body	-	Maximum width	-
Facial width (bizygomatic width) (zy-zy)	-	<i>Mandibular Index</i>	-	<i>Scapular Index</i>	-
<i>Total Facial Index</i>	-	<i>Mandibular Body Robusticity Index</i>	-	CLAVICLE*	
<i>Upper facial Index</i>	-	<i>Mandibular Ramus Index</i>	-	Maximum length	-
NOSE		<i>Frontomandibular Index</i>	-	Circumference at middle of bone	3.60
Nasal height (n-ns)	-			<i>Claviculohumeral Index</i>	-
Nasal width (al-al)	2.60			<i>Robustness Index</i>	-
<i>Nasal Index</i>	-				-

Bones marked with * have two measurements, the upper is for the right, and the lower is for the left side of the body

* вредности су даће прво за десну, а пошом и за леву страну

Table 1. Measurements and indices of cranial and postcranial skeleton

Табела 1. Мере и индекси на кранијалном и постранијалном скелету

POSTCRANIAL SKELETON (CM)		Grave No. 13 Individual I	
HUMERUS*		FEMUR*	
Maximum length	- 27.00	Maximum length	- -
Maximum diameter midshaft (a/m pr.)	2.00 2.00	Bicondylar (physiological) length	- -
Minimum diameter midshaft	1.60 1.70	Subtrochanteric a-p diameter	2.20 2.20
Maximum diameter of the head	- 3.70	Subtrochanteric m-l diameter	2.90 3.00
Smallest circumference of the shaft	5.80 5.70	A-p midshaft diameter	2.10 2.20
Biepicondylar width	- 5.00	M-l midshaft diameter	2.20 2.30
Articular width	- -	Maximum diameter of the head	- -
<i>Robusticity Index</i>	- 21.11	Circumference of the midshaft	7.20 7.20
<i>Cross-Section Index</i>	80.00 85.00	Bicondylar width	- 6.60
<i>Radiohumeral Index</i>	- 71.11	Collo-diaphyseal angle (♂:130-144°; ♀:110°)	- -
RADIUS*		Condylar-diaphyseal angle	- -
Maximum length	- 19.20	<i>Robusticity Index</i>	- -
Physiological length	- -	<i>Pilastric Index</i>	95.45 95.65
A-p midshaft diameter	- -	<i>Platymeric Index</i>	75.86 platymeric 73.33 hyperplatym.
M-l midshaft diameter	- -	TIBIA*	
Smallest circumference of the shaft	- -	Maximum length	30.30 30.40
Maximum distal width	- -	Physiological length	- -
<i>The Length-Thickness Index</i>	- -	A-p diameter (nut. foramen)	2.90 2.90
<i>Cross-Section Index</i>	- -	M-l diameter (nut. foramen)	1.70 1.80
<i>The Length-Width Index</i>	- -	Circumference at the nutrient foramen	7.70 7.60
ULNA*		Proximal width	- -
Maximum length	- 21.20	Distal width	- -
Physiological length	- -	Smallest circumference of the shaft	- -
Smallest circumference of the shaft	- 3.00	<i>The Length-Width Index</i>	- -
<i>Caliber Index</i>	- -	<i>Platycnemic Index</i>	58.62 platycnemic 62.07 platycnemic
		FIBULA*	
		Maximum length	- -
		Smallest circumference of the shaft	- -
		<i>The Length-Width Index</i>	- -

Table 2. Measurements and indices of the postcranial skeleton

Табела 2. Мере и индекси на постранијалном скелету

tuberositas ulnae and *margo interosseus* (of the ulna), *linea aspera* and *tuberositas tibiae*. Metric elements play a much greater role in determining the sex on postcranial skeletal remains, so we paid them special attention. Indices based on the obtained metric elements are shown in the tables, especially regarding the right and left side of the body (Tables 1 and 2). Metric elements and the related cranial bone indices of the skeleton are shown in Table 1.

The age of the adult individual was established on the basis of: the degree of obliteration of the cranial sutures (using the Vallois's principle);¹⁷ the modifications in the maxillary teeth (the changes in the denture occlusal surface were compared with the numerical classification of the erosion of the upper surface of all teeth according to the individual age, as formulated by Lovejoy);¹⁸ the morphological changes at the sternal rib ends (the examined features include: metamorphosis of the pit depth and shape and the pit rim and wall configuration, as well as the general state of the bones in relation to the nine (0–8) phases of progression that span the period starting from the age of 18 up to and beyond the age of 70);¹⁹ the morphological changes of the pubic symphyseal surface (the method devised by Todd was applied, where the metamorphosis of the pubic symphyseal surface through time is divided into ten chronological phases, starting from the age of 18 and extending to beyond 50 years of age,²⁰ and the six-phase Suchey-Brooks method for female individuals: phase I – 19.4 ± 2.6 years of age; phase II – 25.0 ± 4.9 years of age; phase III – 30.7 ± 8.1 years of age, phase IV – 38.2 ± 10.9 years of age; phase V – 48.1 ± 14.6 years of age and phase VI – 60.0 ± 12.4 years of age);²¹ and the pelvic-sacral area (the age of adult individuals was established following the model developed by Lovejoy and his collaborators.²² They classified the modifications of this area into eight phases, from late adolescence to old age, paying most attention to the observation of the position of the bones of the pelvic-sacral cavity, the osteophytic lipping and the bone porosity).

The estimation of the individual age of the foetus was based on the length of long bones, according to the tables proposed by Bass,²³ and Fazekas and Kósa (Table 4).²⁴

26 epigenetic traits in the cranial and 11 epigenetic traits in the postcranial parts of the skeleton were examined.²⁵

The stature of adult individuals was based on the formulae established by Trotter and Gleser (Table 3).²⁶

Results of anthropological analysis

The anthropological analysis revealed that a female individual, aged 25–30 years (probably about 28), in the advanced stages of pregnancy, was buried in grave No. 13.²⁷ The bones of a nine-month old foetus *in utero* were discovered in the pelvic area (Figs. 1–4; Tables 1–4).²⁸

¹⁷ Vallois 1937.

¹⁸ Lovejoy 1985.

¹⁹ Işcan *et al.* 1984a; *idem.* 1984b; *idem.* 1985.

²⁰ Todd 1920, 285–334; *idem.* 1921a; *idem.* 1921b.

²¹ Suchey, Brooks 1990.

²² Lovejoy *et al.* 1985.

²³ Bass 1995, 155, 168, 176, 228, 247, 257.

²⁴ From Schaefer *et al.* 2009, 264, 284.

²⁵ Hauser, De Stefano 1989; Бурић-Срејић 1995, 238–260.

²⁶ Trotter, Gleser 1952.

²⁷ The following cranial bones were preserved: decomposed right and left parietal bones, the left temporal bone, the squamous part of the occipital bone, both nasal bones, the left zygomatic bone, partially fragmented right and left maxilla. The preserved postcranial bones were: both humeri with decomposed humeral heads, both radii with decomposed heads, both ulnae with decomposed coronoid processes, the right femur with a decomposed head and a damaged distal end, the left femur with a fragmented greater trochanter, head and neck, both tibiae with partially damaged ends, both fibulae with partially fragmented proximal ends, both clavicles with damaged ends, the right scapula (partially fragmented glenoid cavity and coracoid process), the left scapula (partially fragmented glenoid cavity, the upper 1/3 of the outer edge, a spine fragment and a coracoid process), the anterior side of the manubrium and two partially fragmented segments of the body of the sternum, both iliac bones with partially fragmented fossae and crests, both sciatic bones with intact tuberosities and fragments of the acetabulum, both pubic bones with intact superior pubic rami and the pubic symphysis, patella, atlas, seven fragments of bodies and fragments of five processes of the thoracic vertebrae, five fragments of bodies and four fragments of processes of the lumbar vertebrae, two fragments of the bodies of the first and partially fragmented anterior side of the body of the second sacral vertebra, 47 rib fragments, both *os scapuloideum*, both *os lunatum*, the left *os capitatum*, both *os hamatum*, metacarpal bones, 18 phalanges of the hands, both tali, two *calcanei*, both *os naviculare*, both *os cuneiforme mediale*, both *os cuneiforme intermedium*, the right *os cuneiforme laterale*, both *os cuboideum*, all right metatarsal bones, I and III left metatarsal bones and 12 foot phalanges.

²⁸ The following cranial bones were preserved: the frontal bone (1/2 of the right and 1/2 of the left, with a partially fragmented orbital part), 17 fragments of parietal bones, the occipital bone (fragment of the squamous part and the basilar part), partially fragmented greater wings of the sphenoid bone, the right temporal bone (petrous part), the left temporal bone (petrous part and squamous part), the left zygomatic bone, the mandible (right ramus and left capitulum), both maxilla (partially fragmented bodies). The preserved postcranial bones were: the right humerus (2/3 of the proximal end and a fragment of the distal end), the left humerus (distal 1/3), the right radius (proximal 2/3), the left radius (proximal 1/3), the left ulna (proximal 2/3), both femurs, both tibiae, three fragments of the bodies of both fibulae, the right clavicle without ends, the left clavicle,

Paleopathological analysis

The paleopathological analysis revealed only a *cribra femora* on the anterior side of the femoral neck of the female adult.

Dental analysis

The dental analysis showed that the following teeth were present in the maxilla: 15, 23 and 25. The following teeth were lost *ante mortem*: 16, 26, 27 and 28. The following teeth were lost *post mortem*: 11, 12, 13, 14, 21, 22 and 24. First-degree abrasion (in the enamel) was noted on teeth 15 and 25, and second-degree abrasion (bare dentin) on tooth 23. Calculus was slightly to moderately pronounced and periodontitis was very prominent (Fig. 4). Periapical cystic cavity was observed buccally on tooth 26 (Fig. 4). Caries was present on tooth 25 (occlusal, caries lesion).

Epigenetic characteristics

The epigenetic characteristics that were present on the cranial skeleton were *sutura incisiva*, *torus palatinus*, infraorbital foramen (one opening on the left side), *foramen zygomaticofaciale* (two openings on the left bone), infraorbital suture (on the left side), lateral extension (on the left side), *foramina parietalia* (one on each of the bones), suprameatal spine (on the left side), two exsutural mastoid foramina (left), ridge behind the mastoid process (on the left side), and *ossa suturae lambdae*. *Perforatio fossae olecrani* on the right humerus is a noted epigenetic characteristic on the postcranial skeleton.

Macroscopic examination of the entheses

Highly pronounced entheses are visible in the locations of muscle attachment sites on both humeri (*m. pectoralis major*, *m. latissimus dorsi*, *m. teres major*), on both clavicles (*m. deltoideus*) and both femurs (*m. gluteus maximus*, *m. pectineus*, *m. gastrocnemius caput mediale*). Squatting facets are visible on both tibiae.

Discussion and conclusion

Despite the widespread belief that the mortality rate of young women was closely associated with complications that can arise during pregnancy and child birth in particular, it is surprising that there have been so few pregnant women in necropolises throughout the world. The only proof that a woman was pregnant is the *in situ* discovery of foetal bones in her pelvis. There are numerous factors, which have been mentioned above, that can directly endanger the preservation of foetal bones.

Stature (cm) – calculation based on the length of	Grave No. 13 Individual I
Humerus	149 ± 4
Radius	146 ± 4
Ulna	148 ± 5
Femur	-
Tibia	150 ± 3
Fibula	-
Medium stature	148 ± 4

Table 3. Stature

Табела 3. Телесна висина

The fact is that pregnancy itself, although a physiological state, carries risks that can lead to a fatal outcome for both mother and child. The most vulnerable moment that can result in the death of the mother is the birth. Factors related to birth in modern medical literature include the birth canal, the foetus as the birth object and birth forces (uterine contractions and pressures).²⁹ A delivery that is considered normal is a birth that occurs between 38 and 42 gestational weeks, carried out naturally, under the effect of a natural birth force and, in the case of a singleton pregnancy, when the baby comes out head first.³⁰ Complications can arise as a result of various circumstances that may disrupt any of these factors. Also, the course of the pregnancy and the mortality rate can be significantly influenced by the mother's health condition, accidental trauma, intentional violence, etc. The risk that the pregnancy would not end successfully was certainly much higher in archaeological populations than in modern ones. In anthropological literature, infection is referred to as the most common identified cause that can lead to complications.³¹ Of course, not every case of a deceased pregnant woman should automatically be associated with problems solely related to pregnancy.

Osteological evidence indicating the death of a mother and child during pregnancy is also rare, and it

the left scapula (only the glenoid cavity and fragments of the outer edge of the body), the right iliac bone with a partially fragmented fossa and crest, the left iliac bone, the right pubic bone, an axis arch fragment, three fragments of cervical vertebrae processes, two bodies and 12 fragments of thoracic vertebrae processes, three bodies and three fragments of lumbar vertebrae processes, one sacral vertebra and 28 rib fragments.

²⁹ Čutura 2011, 353.

³⁰ Momčilov 2011, 223.

³¹ Antikas, Wynn-Antikas 2016; Ortner 2003, 114, 117.

Grave No. 13 Individual II			
RIGHT SIDE OF THE BODY		LEFT SIDE OF THE BODY	
FEMUR		FEMUR	
Maximum length	7.10	Maximum length	7.30
A-p midshaft diameter	-	A-p midshaft diameter	-
M-l midshaft diameter	-	M-l midshaft diameter	-
TIBIA		TIBIA	
Maximum length	6.20	Maximum length	6.40
A-p midshaft diameter	-	A-p midshaft diameter	-
M-l midshaft diameter	-	M-l midshaft diameter	-
A-p diameter (nut. foramen)	-	A-p diameter (nut. foramen)	-
M-l diameter (nut. foramen)	-	M-l diameter (nut. foramen)	-

Table 4. Measurements on the postcranial skeleton

Табела 4. Мере на постранијалном скелету

appears that it does not fully testify to the incidence of death during pregnancy or childbirth.³² The *in situ* position of the foetus in the pelvis is evidence that can suggest whether a pregnant woman died during childbirth.³³ Thus, Cruz and Codinha,³⁴ while working on the skeleton of a young woman discovered in a small village 145 km north of Lisbon, Portugal (19th century), paid special attention to precisely analysing the position of the foetus in the mother’s pelvis. The position of the foetus in this case enabled the conclusion that the birth actually occurred, since the cranial bones of the foetus were in the birth canal.³⁵ However, the authors did not rule out the possibility that the position of the foetus inside the mother’s pelvis could have been caused by other processes.³⁶ The position of foetal bones could be caused not only by the processes that resulted from the decomposition of soft tissue after death, but also the different taphonomic processes,³⁷ as well as cultural and customary aspects associated with the act of burial.³⁸

Therefore, in paleodemographic research, the mortality rate of pregnant women is an important element of a population’s progress. Pregnant woman mortality is considered an adequate criterion for the social and sanitation conditions of a community and a sensitive indicator of health care and, sometimes, the skill level possessed by midwives or doctors.

Regarding the case of the woman discovered in grave No. 13 at the site of “Preko Slatine”, in Omoljica, anthropological analysis revealed that at the time of death she was aged 25–30 (probably about 28 years of age), and that she was in an advanced stage of pregnancy (Figs. 1–4; Tables 1–4). Also, paleopathologic and

dental analyses point out that the health condition of this woman was not good overall (ante mortem loss of several teeth, very apparent periodontal disease, the occurrence of a periapical cystic cavity, and *cribra femorale* on the anterior side of the left femoral neck). Judging by the highly pronounced entheses visible in the locations of muscle attachment on the clavicles, humeri and femurs, one can assume that she was engaged in hard manual labour. According to the archaeological finds, the location and the duration of this necropolis, it can be concluded that the buried individual probably belonged to a rural community. The appearance of squatting facets on her tibiae indicate housework, the raising of children, maintaining a home and the surrounding grounds, building and maintaining a fire, cooking, milking animals, spinning and weaving, and so on. In other words, she was performing various tasks that often require stooping, squatting or crouching.³⁹

At first glance, the bones of the foetus, *in situ*, seem quite dislocated and chaotically distributed around the

³² Cruz, Codinha 2010, 491; Willis, Oxenham 2013, 676.

³³ The precise estimation of the age of the foetus in such material may be a factor when inferring whether problems during birth might have been related to the mother’s death (Ortner 2003, 38).

³⁴ Cruz, Codinha 2010.

³⁵ *Ibid.*, 493.

³⁶ *Ibid.*, 493.

³⁷ In addition to this, the process of excavation and processing of this type of osteological material must be conducted with special care in order to obtain the most accurate information.

³⁸ *Ibid.*, 493.

³⁹ Миладиновић-Радмиловић 2015.

woman’s pelvis area (Figs. 1 and 3). However, closer examination reveals that the bones of the skull and parts of the mandible of the foetus are clearly grouped in the area of the auricular surface and *fossa iliaca* of the left ilium (Fig. 3), and that the chest bones are concentrated in the central part of the pelvis minor and the preserved bones of the lower extremities in the level of the pubic symphysis of the right ilium. Bearing in mind that the age of the foetus is estimated at about 9 months in utero, this position of the foetus in the mother’s pelvis could indicate that the baby was in a breech position just before and during birth. In modern medical practice, the breech position of the foetus is defined as a longitudinal position of the foetus, coming out pelvis first. This kind of foetal position occurs in 3–4% of all monofetal births.⁴⁰ Even today, a breech position of the baby can cause significant complications during labour. These births are often accompanied by

high perinatal mortality and morbidity.⁴¹ The timely response of an experienced obstetrician is crucial.⁴²

There was certainly some knowledge of birth complications in medical practices in the Middle Ages. It is possible that there was at least one person who possessed obstetric skills in every community. However, given that this is a high-risk birth, even today, it is unlikely that the doctors of the time could have reacted properly in this situation.

Finally, health conditions and hard physical labour could have contributed to certain problems during pregnancy. However, based on the age of the foetus (about 9 months in utero), its position and the location in the pelvis, it can be stated with certainty that this labour had a fatal outcome for both the baby and the mother.

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⁴⁰ Kalinović *et al.* 2005,106.

⁴¹ *Ibid.*, 107.

⁴² *Ibid.*, 106.

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СЛУЧАЈ ТРУДНИЦЕ СА СРЕДЊОВЕКОВНОГ ЛОКАЛИТЕТА „ПРЕКО СЛАТИНЕ” У ОМОЉИЦИ

Кључне речи. – југозападни Банат, средњовековна некропола, XII–XIII век, поодмакла трудноћа.

Упркос широко распрострањеном мишљењу да је стопа умирања младих жена у прошлости била уско повезана са компликацијама које могу настати током трудноће, а посебно порођаја, изненађује чињеница да је веома мали број трудница констатован на некрополама широм света. Чак је и у стручној литератури забележен релативно мали број таквих случајева. Једини доказ да је жена трудна јесте само налаз феталних костију у њеној карлици *in situ*. Међутим, постоје две групе фактора који могу директно да угрозе опстанак феталних костију. У прву групу спадају фактори на које археолози не могу да утичу и то су, нпр.: хемијски састав земље, тј. киселост тла, активност микроорганизама у самој земљи, присуство воде и температура земљишта; природна отпорност различитих група костију на деструкцију (кости фетуса, дечјих индивидуа и старијих особа подложније су пропадању); погребна пракса, односно интензитет сахрањивања (чест је случај, као и овде у Омољци, да се на некрополама поред црквених објеката наиђе на висок интензитет сахрањивања, тј. на уклапавање нових у стара гробља, сл. 1 и 2), као и то да ли су раке биле обележене или не, да ли постоје гробне конструкције или не, да ли су после порођаја са смртним исходом мајка и дете заједно сахрањени, да ли су покојници мумифицирани итд. Друга група фактора односи се на само ископавање и на технике које археолози могу мање или више да контролишу. Приликом ископавања и подизања скелетних остатака из земље може доћи до механичког оштећења скелета и до „непрепознавања” фрагментованих делова у земљи (кости фетуса, уколико су руке покојнице биле прекрштене на стомаку, могу бити помешане са костима шака).

Чињеница је да трудноћа сама по себи, иако је физиолошко стање, ипак носи ризике који могу довести до фаталног исхода како за мајку, тако и за дете. Највулнерабилнији моменат који може резултирати смрћу мајке јесте сам порођај. У порођајне факторе у модерној медицинској литератури убрајају се порођајни пут, плод као порођајни објект и порођајне снаге (материчне контракције и напони). Под нормалним порођајем подразумева се порођај између 38. и 42. гестациске недеље, обављен природним порођајним путем, уз дејство природних порођајних снага, а у случају једноплодне трудноће када плод предњачи главом. До компликација може доћи услед дејства најразличитијих околности које угрожавају било који од наведених порођајних фактора. Такође, на ток самог порођаја, али и на смртност, могу значајно утицати и здравствено стање мајке, случајне трау-

матске несреће, намерно извршено насиље итд. Код археолошких популација је ризик да се порођај не заврши успешно био свакако већи него код савремених. У антрополошкој литератури, инфекције се наводе као најчешћи идентификован узрочник који може довести до компликација. Наравно, не би требало сваки случај умрле труднице повезивати са проблемима који су у вези само и директно са трудноћом.

Остеолошки докази који указују на смртни исход мајке и детета током трудноће такође су ретки, а чини се да и они у потпуности не осликавају праву слику учесталости умирања током трудноће или порођаја. Докази на основу којих можемо разматрати да ли је трудница преминула током порођаја јесу утврђивање старости фетуса, испитивање положаја који је фетус заузео у карлици *in situ* и да ли је пронађен у порођајном каналу.

У палеодемографским истраживањима, стопа смртности трудница јесте важан показатељ напретка становништва. Смртност трудница сматра се адекватним критеријумом за испитивање социјалних и санитарних услова заједнице, осетљивим параметром здравствене заштите и показатељем вештина које поседују бабице или лекари.

Када је реч о случају жене откривене на средњовековној некрополи (XII–XIII век) у гробу бр. 13 на локалитету „Преко Слатине” у Омољци (карта 1), антрополошка анализа је показала да је у тренутку смрти сахрањена женска индивидуа била стара 25–30 година (највероватније око 28 година), и да је била у поодмаклој трудноћи (сл. 1–4; табеле 1–4). Такође, на основу палеопатолошких и денталних анализа, могли смо да видимо да здравствено стање те жене није било у потпуности задовољавајуће (заживотан губитак неколико зуба, веома изражена пародонтопатија, појава периапикалне цистичне шупљине, *cribrae femorae* на anteriornoј страни врата левог фемура). На основу изузетно изражених ентеза видљивих на местима мишићних припоја на клавикулама, хумерусима и фемурима, стиче се утисак да се бавила и тешким физичким пословима. Ако се имају у виду археолошки налази, локација и временско трајање ове некрополе, може се закључити да је сахрањена особа вероватно припадала руралној заједници. Појава чучећих фасета на њеним тибијама може указивати на обављање кућних послова, на бригу око деце, чишћење куће и окућнице, ложење ватре и одржавање огњишта, припрему јела, мужење животиња, кување, предење, ткање итд., дакле, обављање различитих послова који често захтевају погнут, згрчен, односно чучећи положај.

На први поглед, кости фетуса, *in situ*, делују прилично дислоциране и хаотично распоређене у пределу карлице ове жене (сл. 1 и 3). Међутим, уколико се пажљиво погледа, уочава се да су кости лобање и делови мандибуле фетуса јасно груписане у пределу аурикуларне површине и *fossae iliacae* леве карличне кости (сл. 3), да су кости грудног коша концентрисане у централном делу мале карлице, а очуване кости доњих екстремитета у нивоу пубичне симфизе десне карличне кости.

Будући да је старост фетуса процењена на око 9 месеци трудноће, овакав положај фетуса у карлици мајке могао би да укаже на то да је беба била у карличном положају непосредно пре порођаја и током њега. У савременој медицинској пракси, под карличним положајем плода подразумева се уздужни положај фетуса са предњачећом карлицом. Та врста положаја среће се код 3–4% свих монофеталних порођаја. Карлични положај бебе и данас може значајно за-

компликовати ток порођаја. Такви порођаји су обично праћени високим пернаталним mortalitetом и морбидитетом. Од пресудног је значаја правовремено реаговање искусног акушера.

Познавање порођајних компликација у медицинској пракси у средњем веку било је свакако присутно. Могуће је да је у свакој заједници постојала барем једна особа која је поседовала акушерске вештине. Међутим, будући да је таква порођај и данас порођај с високим ризиком, мала је вероватноћа да су тадашњи лекари могли у тој ситуацији да одреагују на прави начин.

На крају, здравствено стање и тешки физички послови могли су да допринесу одређеним проблемима у трудноћи, међутим, на основу старости фетуса (око 9 месеци *in utero*), као и његовог положаја и места у карлици могло би се с великом вероватноћом тврдити да је овде реч управо о порођају са смртним исходом и по мајку и по бебу.