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YOUNG SOLDIERS IN LATE ANTIQUITY: TWO DEATHS IN NORTHERN APULIA BETWEEN THE GREEK-GOTHIC WAR AND THE LOMBARD INVASION

ABSTRACT: *The current work concerns the anthropological study of skeletal remains of two young adults involved in violent - and possibly related to war - combats. The two cases described are young male adults who both belong to the same territorial context and chronological span, between the Greek-Gothic war and the Lombard invasion, a period of great social and political upheavals in Italy, especially in Northern Apulia. This research is based on historical, archaeological, anthropological and paleopathological sources and it focuses on the role of young adults in Medieval society, especially during wars, showing labour differences defined by gender or age. Furthermore, the trauma analysis, such as the one which caused a death by beheading, allows us to reconstruct the dynamics, to hypothesize the weapons used, so that we can recreate a profile of the assaulters and the performance of certain rituals after the fighting. Finally, we can attest the presence of foreign fighters - maybe mercenaries or invaders - in Medieval Italy.*

KEY WORDS: *Late Antiquity - Apulia - War - Young adults - Wounds - Weapons*

INTRODUCTION

In the last years, the interest in Late Antiquity and early Middle Ages is increasing among researchers. Many studies related to this period in Apulia (South Italy) have been carried out in many archaeological sites in the northern part of the region: San Pietro (Volpe *et al.* 2002, 2003), the Baptistery of San Giovanni (Giuliani

et al. 2012) and San Leucio (D'Alessio *et al.* 2012) in Canosa (BAT), San Giusto in Lucera (FG) (Volpe 1998, Volpe *et al.* 2001), Ordona (FG) (Volpe, Leone 2008), Roman villas of Agnuli in Manfredonia (FG) (Volpe 1988) and Faragola in Ascoli Satriano (FG) (Volpe *et al.* 2012).

These surveys provided important and unpublished data useful to the reconstruction of this period as well

Received 24 July 2015; accepted 18 November 2016.

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as events which were only described in historical sources and not always archaeologically attested, such as war and genetic dynamics.

This anthropological analysis of skeletal remains of two young adults who lived during the Greek-Gothic war (535–553 AD) and the arrival of the Lombards in Northern Apulia (late VI–VII century AD) gives us new information about war mortality and violence: the first skeleton (SG130) was found in the archaeological site of San Giusto in Lucera (VI century AD) and the other one (CSP53) in San Pietro in Canosa (early VII century AD) (Figure 1). In that period the region was a scenario of clashes and it was also affected by great social and political upheavals that brought to complex genetic mixing. These events are described in two important literary works: Procopius of Caesarea's *De bellis* (Compagnon 2005) and Paul the Deacon's *Historia Langobardorum* (Zanella 2000).

The two individuals' chronological proximity, their biological profile, the way they died and their high possibility of being exposed to accidents, are the reasons that led us to initiate an anthropological investigation.

On one hand, the study of population involved in a war allows us to determine the division of labour in Late Antiquity and early Middle Ages, differentiated by gender or age. On the other hand, in this context, there should

be a difference between those who actively participate to the war itself – such as warriors – and those who passively happen to be in it – farmers, women, children...

Finally, the study of traumatic lesions found on skeletal remains shows the kind of weapons and how they were used: some of those traumas suggest the use of "occasional" weapons, such as daily tools – e.g. pickaxes – in other circumstances they were caused by proper weapons, connected to specific ethnic groups – e.g. swords and arrows. In the latter scenario, if the weapons belonged to a geographically distant area, we may assume they were owned by mercenaries or invaders in Apulia. In one of the two cases, on the basis of this information, we can outline a possible profile of the assaulter.

MATERIALS AND METHODS

Skeletal remains refer to two individuals. The first one, SG130, is dated back to the 6th century AD and it was found in 1999 in San Giusto (Lucera, FG) during the archaeological excavations conducted by the University of Foggia (Volpe 1998, Volpe *et al.* 2001); the other one, CSP53, dating at about the end of 6th – the beginning of 7th century AD, was found in the vast cemetery of San Pietro (Canosa, BAT) excavated in 2002 by the same University (Volpe *et al.* 2002, 2003). Both skeletons were subjected to anthropological investigation in order to establish the biological profile: SG130 belongs to a juvenile male (16–17 years old), he was 170 cm tall and had an estimated body mass of 70 kg; CSP53 belongs to a juvenile-adult male (about 20 years old) who was 175 cm tall and had an estimated body mass of 68 kg. The state of preservation of both skeletons in terms of quantity and quality is good.

The identification of morphometric characters followed the directions of Martin and Saller (1956–59); the determination of age and sex was performed according to the methods of Ferembach *et al.* (1980) and Lovejoy *et al.* (1985); the study of nutritional and/or stress diseases follows Brothwell (1981) and Larsen (1999), as well as the detection of periodontal disease and caries; tartar deposits evaluations and the degree of dental wear were performed, respectively, as shown in Dobney and Brothwell (1987) and Molnar (1971); the study of the enamel hypoplasia lines was performed according to Goodman, Rose (1990); the survey on markers of skeletal biomechanical stress was carried out according to the evaluation and interpretation of syndesmosis injuries, enthesopathies, new articular surfaces and degenerative joint diseases, following the



FIGURE 1. Apulia (South Italy): geographical location of the graves.

work of Rogers *et al.* (1987), Kennedy (1989), Palfi (1992), Lai and Lovell (1992), Robb (1994), Robb and Mallegni (1994) and Mariotti *et al.* (2007); the diagnosis of degenerative changes of the spine follows Borgognini Tarli, Repetto (1986); biomass body was estimated through the methods of Ruff *et al.* (1997); finally, the investigation of the cross sectional geometry of the humerus and femur follows the directions of Larsen (1999), Capasso *et al.* (1999), Ledger *et al.* (2000), Stock, Pfeiffer (2001), and Tracey *et al.* (1994).

RESULTS AND DISCUSSION

Lucera, San Giusto: grave n. 130

Tomb 130 is a *capuchin* grave (Figure 2a): the body was set supine with right arm and forearm extended

along the trunk; the left arm was parallel to the trunk, the forearm was semiflexed and lying on the contralateral iliac crest, the lower limbs were extended (Figure 2b). Decomposition occurred in an "empty space" – according to definition given by Duday *et al.* (1990) – as shown by the slumping of the rib cage, the splaying of the pubic symphysis and the external rotation of the femurs and tibias.

The individual was a young male whose health and nutrition can't be defined neither poor nor very good, as indicated by the medium value of medium-diaphyseal cortical section of the humerus (%CA=68%). The skeleton was poorly modeled by muscles because of a lack of major physical activities, except for manual work, perhaps related to crafts, as is clear from the observation of entheses in the muscles of the wrist and hand.



FIGURE 2. Apulia (South Italy), Lucera, San Giusto, grave n.130: a, the capuchin grave; b, the human remains.

The frontal bone of the skull shows two traumatic injuries, one of them is fatal (*Figure 3*): the first wound consists of a perforation of a roughly quadrangular shape, which measures 17.8 mm × 12.4 mm around the medial sagittal plane, and that is distant 28 mm from the craniometric point *bregma*. At the external level, the right antero-lateral margin and a small part of the posterior edge show a fringed and raised edge, the left one with a very well-defined and oblique edge; the endocranial view reveals the opposite effect, with a well-defined edge in the right margin and an irregular one in the left side (*Figure 3a*). On the right side of the lesion can be seen two lines of fracture that completely circumscribe a flake bone, which appears raised; Hence the hypothesis that the lesion is perimortem, as being

the trace of an elastic reaction of the hit in the skull, which presupposes a tissue hydration. In addition, during the material cleaning, the margins of the lesion showed a concretion of the soil deposit: this excludes the possibility that the perforation was post-depositional. Therefore, the perimortem nature of the wound can be established, as well as the absence of bone regrowth suggests that the wound had a fatal outcome and that the injury was caused by a violent stab inflicted with a pointed weapon with a quadrangular section (*Figure 3a*).

On the anterolateral portion of the right frontal bone another injury was detected, consisting of a loss of cortical surface of rounded shape (diameter = 38 mm); the bone is cut off tangentially to the convexity of the



FIGURE 3. Grave n. 130, skull: a, quadrangular shaped perforation; b, the loss of cortical surface. The white arrows on the image indicate the trajectory of the weapon.

frontal squama and shows the characteristic *micro striae* produced by the passage of a blade (Figure 3b). Moreover, this injury does not show signs of healing so there must be a strict chronological connection between the two wounds, the former described culminating in death.

Canosa, San Pietro: grave n.53

Tomb 53 is a rich grave with a reused Roman ledger stone (Figure 4a): the body was set supine, the cranium was dislocated and rotated 90° with the base lying at the bottom of the tomb; the left arm was abducted with the forearm flexed; the right arm was parallel to the trunk with the forearm semiflexed and lying on the homolateral hip joint; the left femur was abducted and rotated externally while the tibiae and fibulas were laterally rotated and revealed an inverted position with

the lateral surface lying flat and anatomically joined (Figure 4b). The slumping of the rib cage, the splaying of the pelvis and the external rotation of the femurs prove that decomposition occurred in an empty space – according to the definition given by Duday *et al.* (1990).

The individual was a young male in good health with good nutrition, as shown by the high percentage of medium-diaphyseal cortical section of the humerus (%CA=84%). The bones reveal signs of considerable physical activity, such as horseback riding. As a matter of fact, Schmorl's nodes on the axial skeleton, an oval-shaped acetabular notches of the ossa coxae, deep *foveas femoralis* with high edges, *Poirier's* facets and morphological alterations of the greater and lesser trochanter of femurs are the typical signs of "*rider syndrome*" (Blondiaux 1994, Fornaciari *et al.* 2003).



FIGURE 4. Apulia (South Italy), Canosa, San Pietro, grave n. 53: a, the re-used Roman ledger stone; b, the human remains.

His body is marked by many wounds, signs of an intense and violent life, specifically on his skull (Sublimi Saponetti *et al.* 2008) (Figure 5). The first one is a cutting wound caused by a sharp blade (Figure 5a): in the left *norma lateralis* a complete severing of the apex of the mastoid process had occurred, as well as a rupture on the *maxilla* of the crown of the third molar; the hook-like process of the medial wing in the left pterygoid is absent. The same sharp blade hit the left mandibular branch and completely separated it: the oblique fracture measures 15 mm, from the lowest point of the sigmoid incisura, from which a second, very long crack runs downwards anteriorly, parallel to the inferior margin of the mandible, reaching the chin symphysis. The cut surface is smooth on the detached portion and the posterior surface has regular margins, while the anterior part is irregular. The victim appears to have had his head tilted to the left and his mouth opened when he was hit laterally in a downward direction.

A thin blade, cutting at an angle of about 30°, removed in the atlas most of the part of the lateral margin of the inferior left articular facet, as well as the homologous transverse process; the axis has been cut

in several points: cortical surface has been sliced away, exposing the trabecular layer of the odontoid apophysis, the vertebral body and the superior right joint apophysis; the cranial part of the spinous apophysis and the right tubercle also appear to have been cut away. The lesion has a small cut surface with well defined margins while the rest of the region is irregular, as it is the base of the odontoid process. In the anterior view there is a fracture line running obliquely from the anterior margin of the left superior articular facet to the vertebral body and then parallel with it, ending near the medial margin of the right transverse foramen (Figure 5b).

Other potential blade wounds are localized on the cranium on the frontal and parietal bones; some cuts are semicircular (Figure 6a), others run lengthways and they range in size from 5 to 24mm; in some points the most external layer of the bone has been peeled away (Figure 6b). The lesions are produced by placing the blade flat and tangent to the bone: This type of cut and their location are attributed to the practice of scalping, as reported by the numerous references in Larsen (1999: 119).

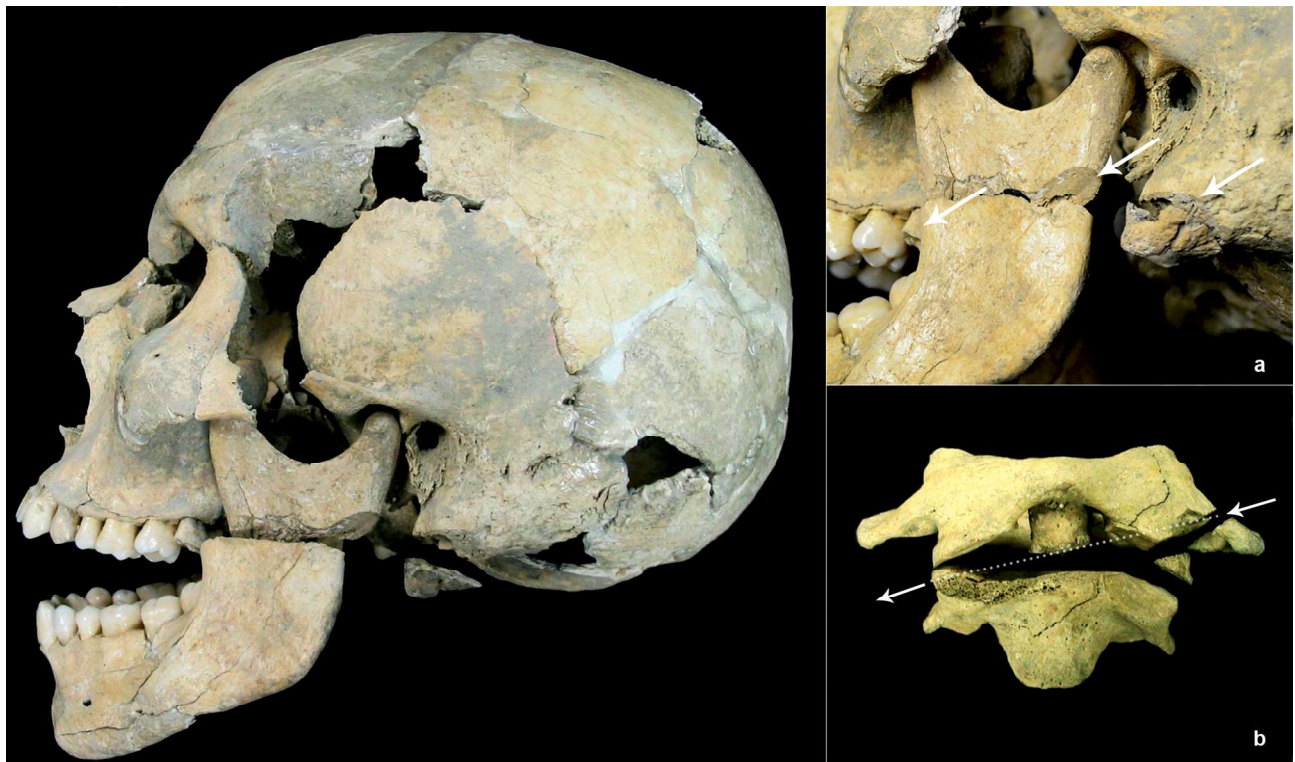


FIGURE 5. Grave n. 53, skull: cutting of the mastoid process: a, the mandibular branch and the third molar; b, atlas. The white arrows on the image indicate the trajectory of the weapon.



FIGURE 6. Grave n. 53, skull: a, circular; b, straight cutting weapon. The white arrows on the image indicate the trajectory of the weapon.

Two small lesions can be seen on the left parietal and frontal bone, probably caused by arrows that have not completely penetrated into it. The lesions are irregular and stellar-shaped, measuring 1.5 mm in diameter. Close to one of these two lesions in the median portion of the frontal bone, about 6.5 cm from the nasal *incisura*, there is an oval-shaped loss of bone substance (11 mm × 20 mm × 3 mm) (Figure 7).

Finally, a cut is visible on the proximal epiphysis of the left ulna. It appears smooth, with a regular margin on the dorsal part, and an irregular margin on the volar one; the same lacerated and irregular surface is present on the proximal segment. In the same area two bone flakes are detached: a smaller and triangular-shaped one from the dorsal face, and a larger one from the volar face. On the dorsal face of the diaphysis there are two fracture lines running parallel towards it for about 3 cm. The blade, cutting posteriorly and downwards, has severed the proximal epiphysis of the left ulna approximately 1 cm below the radial *incisura*. The same blade, perhaps a little less than 2 mm thick, according to the size of the cut, penetrated 1 cm in the radius from above, in dorso-volar direction; on the dorsal face, on the inferior margin of the lesion, another thin flake has been detached. On the posterior face of the left radius, on the radial tuberosity, there is another cutting wound (Figure 8).

Both tibias show injuries caused by stabbing: in the medial surface of the left tibia just below the half diaphysis there is a circular lesion of about 2.5 mm

diameter and 2 mm deep; on the upper face of the distal end of the right tibia there is a full thickness oval-shaped perforation (4 mm × 3 mm) probably caused by a sharp-pointed weapon (Figure 9a). The absence of bone remodeling, as in all other wounds, suggests a strict chronological connection between this injury and the others. Moreover, the inversion of tibias and fibulas that occurred in the lying body is maybe

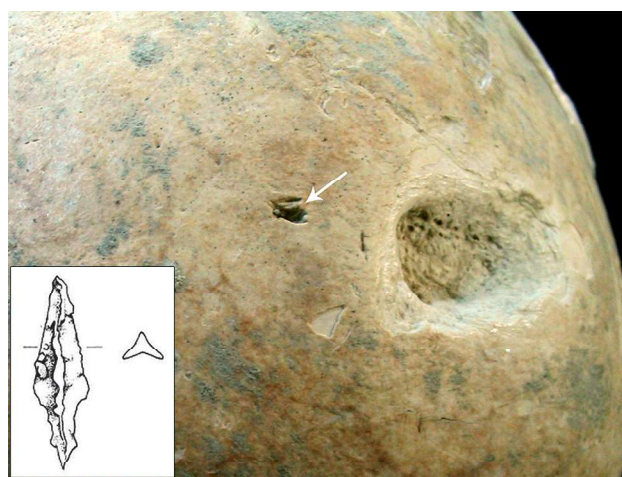


FIGURE 7. Grave n. 53, skull: irregular and stellar-shape perforation; the Avaricum "three-wings" arrow from San Giusto [49: 231]. The white arrows on the image indicate the trajectory of the weapon.

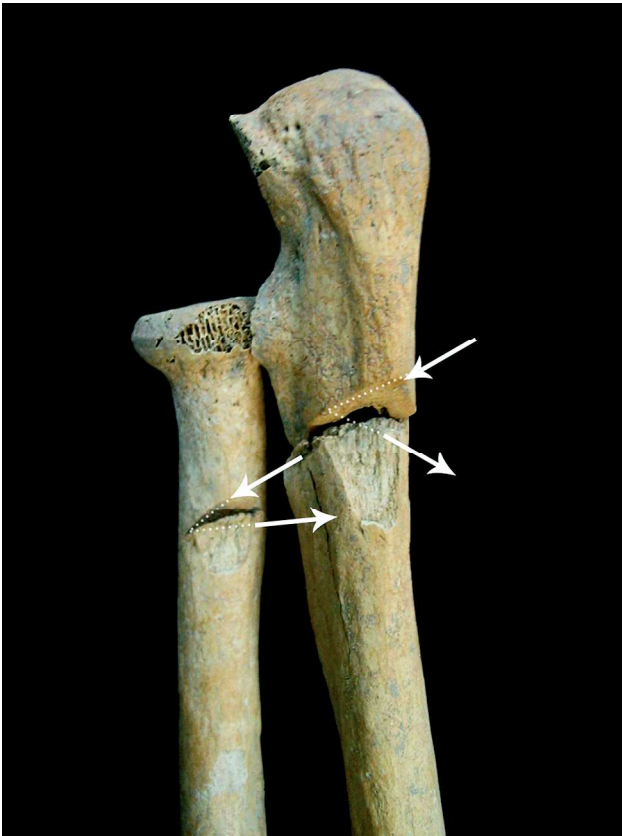


FIGURE 8. Grave n. 53, ulna and radius: parry wound. The white arrows on the image indicate the trajectory of the weapon.

explained by a peri-mortem trauma that damaged the knee joints, perhaps following a violent fall from above (e.g. from his horse) (Figure 9b).

Thus, after a long and violent fight, which caused numerous lesions across the skeleton – stabbing and cutting wounds – the young warrior was beheaded. The assailers removed the skin and hair from the top of his head as a sign of victory.

The weapons

According to the type of wounds, their shape and how the cuts were made, the dynamics of the episodes can be reconstructed, and hypothesis can be made on the type of weapon used, in accordance with the chronological reference. First of all, the weapons used in this two cases of study are different from each other in a typological and cultural point of view.

The young male in the grave 130 may have been hit by two different weapons or by a single weapon with a pointed head and an opposite sharp side: the tool

that presents both characteristics is an "occasional" weapon like a pickaxe or the *dolabra/dolabella*, that was used by Roman armies (and perhaps Byzantine too), as a work tool in the fields or during sacrifices to the gods.

The individual in grave 53 may have been struck by a number of stellar-shaped arrows on his legs and on the cranial vault (Golubović *et al.* 2010). While his left arm was abducted and the forearm flexed and prone, he was hit on the ulna and radius by a light and sharpened weapon: it could have been a weapon sharpened only on one side similar to a *langsax*, the long version of *scramasax*, whose types are summarized in Csiky (2012: 375); this type of lesion, very common in literature, is a parry wound occurred in the attempt of protecting the head from the enemy's assault with a shield or the arm itself. The cutting wounds on the mastoid process, on the left mandibular branch, on third upper left molar and on the first two cervical vertebrae seem to be attributable to a single back-handed assault using a thin, sharp weapon, maybe a single-edged sword or *langsax*. The aggressor attacked the victim from the left side, while he was turning his head towards the new threat. After the beheading, the cranial vault was cut by a knife, probably even scalped. Weapons like *scramasax*, bow and arrows, shield and spear, correspond to the grave goods found in the Avar tombs of Vicenne Campochiaro (CB), contemporary to the archaeological site of Canosa and located 100 km away (Giusberti 1991, Arslan 2000, Provesi 2009, Ceglia 2000). As for the stellar-shaped arrows, they are similar to the Avaricum "three-wings" arrows in graves 85 in Ceglia (2000: 216–22) and 150 in Ceglia and Marchetta (2012: 228).

A possible profile of the assailers

The hypothetical weapons allow us to assume the identity of the assailers. In the first case, subject 130, the only useful element is the type of weapon - the *dolabra* - perhaps in those years still used by Byzantine Army as a legacy of the Roman military culture.

The type of weapons presumably used by the aggressor of skeleton 53 – i.e. arrows, a *langsax* and a knife – as well as the supposed scalping practice, they all strongly refer to the military equipment and the fighting practices of the tribes of the Steppes (Huns and Avars), that raided Europe from the V to the VII century AD. Procopius, the historian contemporary with these events, gives us some details: he wrote that the Byzantine armies who fought the Greek-Gothic war in South Italy had recruited Avars horse archers as



FIGURE 9. Grave n. 53, tibias: a, oval-shaped perforation; b, the inversion of tibias and fibulas in the lying body.

mercenaries (V-VII books). It seems confirmed by the discovery of individuals with Mongolian traits who were buried with military equipment typical of Avar people in some cemeteries of Northern Apulia and Molise dated to this period: Canosa Piano di San Giovanni (Sublimi Saponetti 1991), Ortona (Sublimi Saponetti *et al.* 2000), San Giusto (Sublimi Saponetti *et al.* 2005), Vicenne Campochiaro (Giusberti 1991, Arslan 2000, Ceglia, Marchetta 2012). Connections between Byzantine and Avars are also well attested by the presence of both population grave goods in the same tombs in the cemeteries of Slovenia and Hungary (Kovrig 1977).

CONCLUSION

The anthropological study of these individuals and the analysis of traumatic events is useful for the reconstruction of this particular historical period,

especially in the use of some weapons and practices, such as scalping, that are not otherwise attested.

While in the first case the young male shows a skeleton that cannot be considered of a man trained to be a warrior, but rather of someone who spends his life in the craftwork; in the second case the skeleton bears the signs of a person who lived a violent life and fought in battle.

The first individual was probably the victim of an isolated episode: he was wounded twice, one injury being fatal, in an assault with an occasional weapon, perhaps a pickaxe or a *dolabra*. The second individual, however, before undergoing the beheading and scalping, fought for a long time and was struck by a series of arrows and by other weapons that he partly parried.

Considering the evidences of weapons and practices, we can consider both individuals as victims of the war that swept the region in those years, the Greek-Gothic war. The weapons may have belonged to the Byzantine

Army and to Avar archers: the former directly involved in the clashes, the latter recruited as mercenaries, as the contemporary historical sources narrate.

This also helps to support the hypothesis that men were involved in violent fighting from an early age. Other archaeological cases, slightly earlier or contemporary, report of young males hit by weapons - T33 of Vicenne Campochiaro in Arslan (2000) - and beheaded after the fight (Anderson 2001, Ardagna *et al.* 2005, Gallien *et al.* 2009, Jimenez *et al.* 2002, Perréard Lopreno 2000, Philpott 1991, Pitts *et al.* 2002). Presence of young people in war is also proved in a recent archaeological discovery: the common grave of Viking raiders of Ridgeway Hill in Dorset (UK), intercepted in 2009 and dated X century AD, in which most of the 54 individuals recovered were between 18 and 25 years old (Loe *et al.* 2014). So that we can affirm that war in Late Antiquity and early Middle Ages was often, if not primarily, fought by warriors who were hardly in their 20s. Finally, the study confirms the importance of injuries analysis to reconstruct the battle dynamics and the history of weapon use (Mrđjić, Korać 2009, Novak 2010).

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