PRIVILEGED BURIAL IN THE PAVA PIEVE
(SIENA, 8th CENTURY AD)

Abstract - During the 6th archaeological excavation campaign performed at the «Pieve di Pava» (San Giovanni d’Asso, Siena, Italy) in the summer of 2009, a stone-lined burial of a high-status single individual (US 2378) was discovered, covered by a monolithic slab and placed in front of the altar. The tomb is about 160 cm long, 40 cm wide and over 70 cm deep. The skeletal remains of a young male (18-20 years), not in anatomical connection, were found on the floor of the tomb. 

The paleopathological study diagnosed a case of displasia acromesomelica, a congenital anomaly with disproportionate limbs: short, enlarged distal segments (radius-ulna and tibia), almost normal proximal segments (humerus and femur), short stature of about 150 cm, and bilateral fibular agenesis. Tibiae malformation and fibulae agenesis led to bilateral talipes valgus, with major walking problems. Extensive enthesopathies in the upper limbs indicate the use of crutches.

Key words - High status burial, acromesomelic dysplasia, enthesophyte, palaeopathology, early Middle Ages, Italy.

Parole chiave - Sepoltura privilegiata, displasia ossea, enthesopatie, palaeopatologia, Toscana.

Introduction

The aim of this paper is to describe a very peculiar burial, interesting from an archaeological, taphonomic and palaeopathological point of view. The excavations of the «Pieve di Pava» (church with baptismal font), in the southern part of the Province of Siena, central Italy (Fig. 1), performed by the Landscape Archaeology and Remote Sensing Laboratory (Lap&t) of the University of Siena in 2004, revealed an important archaeological complex, composed by the religious building of the Pieve with annexed cemetery. It is undoubtedly the...
Pieve of San Pietro in Pava, first recorded in a document of AD 714 (Campana et al., 2009), related to a dispute between the bishops of Siena and Arezzo for the control of some pievi (Schiapparelli, 1929, n. 17) (Felici, 2009). The cemetery (Fig. 2) produced an extraordinary number of burials, about 1000 (Mongelli et al., 2007), and these funerary practices around the church are dated, back to the 9th-13th centuries, according to 14C. The burials, which only occur outside the Pieve, are simple graves, in only a few cases with stone or wooden elements. During the 6th archaeological excavation campaign performed in the summer of 2009, the only stone lined burial discovered was that of a high status individual (US 2378), covered by a monolithic slab, placed in front of the altar. The tomb is about 160 cm long, 40 cm wide and over 70 cm deep.

MATERIAL AND METHODS

The age of death was established according to synostosis of cranial sutures (Meindl & Lovejoy, 1985), tooth wear (Lovejoy, 1985), sternal articular surface (Iscan et al., 1984; Iscan et al., 1985) and pubic symphysis (Lovejoy et al., 1985). Sex was determined on the basis of the hipbone, pelvis (Ubelaker, 1989) and skull morphology (Buikstra & Ubelaker, 1994). For the metric and morphometric characters of the skull we adopted the method of Hug (1940) and Martin & Saller (1956-59). For the calculation of the stature we applied the method of Trotter & Gleser (1977). For the enthesopathies, reference was made to the works of Mariotti, Facchini, Belcastro (2004). For the description and classification of diseases we used the standards established by a group of American anthropologists and palaeopathologists (Buikstra & Ubelaker, 1994). For palaeonutrition we adopted the stable isotopes of carbon ($\delta^{13}$C) and nitrogen ($\delta^{15}$N) (Sutton et al., 2010).

ARCHAEOLOGICAL AND ANTHROPOLOGICAL EVIDENCE

The skeleton, in good state of preservation and deposed on the floor of the tomb not in anatomical connection (Fig. 3), with the absence of few small bones of the hands and feet and some cervical vertebrae, belongs to a young male of 18-20 years. The spatial distribution of bones, not in anatomical position and conditioned by two delimitations, consisting in the vertical wall of the grave and a circle formed by a perishable element, most probably a sack used for transportation to the church (Henri Duday, personal communication) (Fig. 4), confirms that this is a secondary burial (Duday, 2006). A bone sample from the skeleton, submitted to $^{14}$C dating, revealed a calibrate date between 650 and 688 AD. Stable isotope analysis ($^{18}$O, $^{13}$C, $^{15}$N) attested that he was a member of the local population (Tab. 1) (Prowse et al., 2007), with a diet (Fig. 5) rather rich in animal proteins, $\delta^{15}$N= 10.10 e $\delta^{13}$C= -18.97 (CIRCE Laboratory, Center of Isotopic Research for Cultural and Environmental Heritage, Department of Environmental Sciences, 2nd University of Naples).

PATHOLOGY

The paleopathological study revealed significantly disproportionate limbs, in particular the lower ones (Fig. 6), characterised by:

- short forearms, with deformation of the proximal and distal epiphyses of the radius and ulna and bowed radii;
- bilateral short lower limbs, with bowed and stubby tibial diaphyses;
bilateral absence of triangular fovea for fibulae (agenesis), with oblique articular surfaces of distal tibial epiphyses;

- abnormally positioned talus and calcaneus.

In order to establish the proportion of limbs, we calculated the stature with the proximal and distal bones of the appendicular skeleton (Trotter & Gleser, 1977). The stature obtained with the humerus and femur is similar (about 160 cm), but shorter if calculated with the distal bones of the upper limbs such as the ulna and radius (about 156 cm) or very short with the tibiae (about 149 cm), with evident brachicnemia (Tab. 2).

**Related pathologies**

The skeleton (Fig. 6) also shows bilateral extensive enthesopathies of the clavicle, with destructive fovea of the costoclavicular ligament and strong bilateral insertion of pectoralis major and teres major of the humerus, characterized by osteolytic fossae (Mariotti et al., 2004). These enthesopathies may have been caused by the use of crutches. The T7, T8 and T12 vertebral bodies show Schmorl’s nodes (Weiss, 2005). There is also S1 lumbarization, and osteochondritis dissecans of the right femoral head, probably caused by an overload of the lower right.

**Discussion**

For differential diagnosis, the shortening of the extremities is generally classified as follows (Fig. 7): micromelic (shortening of the whole limb); rhizomelic (shortening of the proximal segment); mesomelic (shortening of the middle segment) and acromelic (shortening of the distal segment) (Waldrom, 2009). This individual shows short and enlarged middle segments (radius-ulna and tibia), with bilateral fibular agenesis and malformed talus and calcaneus; the normal proximal segments (humerus and femur) are normal, with short stature of about 150 cm. In our case, using Waldrom’s
There is an example of this type of dwarfism in palaeopathological literature, as is the case of a Roman skeleton, found in England in 1985. This skeleton shows a form of dwarfism affecting the middle segments of the limbs, similar but more severe than the skeleton of the present study (Rogers, 1986). Another very ancient case of acromesomelic dysplasia, dated back to the late upper Palaeolithic, was found in southern Italy (Frayer et al., 1988).

Conclusions

It is possible only to speculate about the identity of this individual, certainly important, despite his handicap, for the Pava community of the 7th century AD, which honoured him with such a privileged burial. It is evident that the position of this secondary burial in a stone tomb in front of the high altar during the restoration of the building, certainly had great symbolic value, probably designed to give prestige to the church. Therefore, two hypotheses are possible: he was either the member of a local elite family, perhaps a benefactor of the church, or an eminent religious personage, perhaps a saint, so distinguished in the Pava community as to obtain the honour of this privileged burial. This second hypothesis, of a relic used for the re-consecration of the church after the restoration works of the 8th century, seems more suitable.
Tab. 2 - Disproportionate limbs (Trotter & Gleser stature, 1977).

<table>
<thead>
<tr>
<th>BONE</th>
<th>Humerus</th>
<th>Radius</th>
<th>Ulna</th>
<th>Femur</th>
<th>Tibia</th>
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<tr>
<td></td>
<td>R</td>
<td>L</td>
<td>R</td>
<td>L</td>
<td>R</td>
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<tr>
<td>Length cm</td>
<td>296</td>
<td>291</td>
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<td>207</td>
<td>-</td>
</tr>
<tr>
<td>Stature cm</td>
<td>161.1</td>
<td>160</td>
<td>158</td>
<td>157.3</td>
<td>-</td>
</tr>
</tbody>
</table>

Fig. 6 - Skeleton with list of the diseases.

Fig. 7 - Differential diagnosis between the common forms of dwarfism and short stature (Waldrom, 2009).
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References


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