

MOLECULAR AND MORPHOLOGICAL CASE OF POTT'S DISEASE FROM THE ÁRPÁDIAN-ERA

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It is well known that tuberculosis (TB) causes 1.5 million deaths every year and one-third of the world's total population is infected with *Mycobacterium tuberculosis* (WHO, 2011). These facts give a great importance to paleopathological TB research too. Due to recent development of macroscopic and molecular diagnostic methods in paleopathology and paleomicrobiology, molecular methods for the detection of *Mycobacterium* ancient DNA (aDNA) have also been developed considerably in the last few years. The osteoarchaeological series of Győr-Pósdomb from the 10-11th century (western Hungary) has already been the subject of preliminary paleopathological studies on TB-related bone lesions, an interesting case with Pott's disease (Grave No. 187) was detected. The total graveyard contains 217 individuals. Skeletal material of this cemetery was chosen for the macromorphological investigation, which focused both on classical/advanced (tuberculous spondylitis, tuberculous arthritis) stage skeletal TB alterations and atypical/early-stage TB lesions (rib lesions, superficial vertebral changes, endocranial alterations, early-stage spondylodiscitis). In addition, the association of possible stress factors (long bone periostitis, cribra orbitalia, cribra cranii) was also considered. Earlier some cases had been detected from the Roman Period Pannonia and the Avar Age by macromorphological methods. Nevertheless the good state of preservation of this case, the important chronological period of the Hungarian history and the fact that the presence of classical TB symptoms from Árpádián-era have never been detected aDNA by molecular methods before encouraged us to carry out an ancient DNA test of TB-related lesions in this skeleton. Paleomicrobiological analysis was used to study the presence of *Mycobacterium tuberculosis* DNA both in morphologically positive and negative cases. Samples were examined for the repetitive element IS6110 in the *M. tuberculosis* complex (MTBC). The currently ongoing spoligotyping and sequencing can give a more accurate picture of the infection by different MTBC pathogens. Our future aims include the examination of the total series of Győr-Pósdomb so that we can clarify a certain degree of the infection in this era. This research was supported by the European Union and the State of Hungary, co-financed by the European Social Fund in the framework of TBMOP 4.2.4. A/2-11-1-2012-0001 "National Excellence Program".

Key words: *paleopathology, aDNA, 10-11th century, skeletal tuberculosis, Mycobacterium tuberculosis complex, Hungary*

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