

## TUBERCULOSIS IN AN 18<sup>TH</sup> CENTURY POPULATION OF VÁC, HUNGARY

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The infection caused by *Mycobacterium tuberculosis* has been called by several names: lung disease, phthisis, tuberculosis, *morbus hungaricus*, etc. It was an endemic disease in Europe and it seemed almost eliminated 50 years ago, but is an increasing and major problem today.

The purpose of the study was to analyse tuberculosis patterns in a unique population living in the 18<sup>th</sup> century, before the development of antimicrobial therapy and antibiotic resistance.

Naturally-mummified individuals from the 18<sup>th</sup> century were discovered in the Dominican Church of Vác, Hungary. 265 individuals from coffins and another 46 remains from the ossuary were removed. Natural mummification was made possible by the special microclimate of the crypt. The anthropological material is stored in the Department of Anthropology, Hungarian Natural History Museum, Budapest, Hungary.

Morphological and radiological studies revealed several cases of vertebral tuberculosis (e.g. advanced-stage childhood Pott's disease, early-stage vertebral destructions due to tuberculosis, TB-calcifications)<sup>1,2</sup>. On-going molecular biological studies of the whole sample reveal a very high prevalence of tuberculosis in this series<sup>3,4</sup>. During our studies we took samples from different regions of the bodies of 253 mummies in order to demonstrate and characterise the DNA of *Mycobacterium tuberculosis* by molecular examinations. Results show that the DNA of *M. tuberculosis* was detectable in 69.8 % of the specimens.

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<sup>1</sup>Pap I, Kustár Á, Bernert Zs, Szikossy I, Donoghue HD, Spigelman M, Hershkovitz I, Kristóf LA, Barta MI & Pálfi Gy. Paléopathologie rachidienne de deux momies du XVIIIe s. In: BERATO J. (éd.), *Centre Archéologique du Var, 2001*. Centre Archéologique du Var, Toulon, France, 2002, pp. 40-42.

<sup>2</sup>Pálfi Gy, Pap I, Kristóf LA, Szikossy I, Donoghue H, Spigelman M, & Barta HM TB in the mummies of Vác (18-19<sup>th</sup> centuries, Vác, Hungary). Abstracts, V World Congress on Mummy Studies, Università di Torino Dipartimento di Biologia Animale e Dell'uomo, Turin, Italy, 2004, p. 86

<sup>3</sup>Fletcher HA, Donoghue HD, Taylor GM, Van Der Zanden AGM, Spigelman M. Molecular analysis of *Mycobacterium tuberculosis* from a family of 18<sup>th</sup> century Hungarians. *Microbiology* 149, 143-151, 2003.

<sup>4</sup>Fletcher HA, Donoghue HD, Holton J, Pap I, Spigelman M. Widespread occurrence of *Mycobacterium tuberculosis* DNA from 18th-19th Century Hungarians. *American Journal of Physical Anthropology* 120, 144-152, 2003.