

7000 years ago: One of the oldest cases of tuberculosis discovered

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Tuberculosis was present in Europe as early as 7000 years ago, according to new research published October 30th in the open-access journal *PLOS ONE*, by Muriel Masson and colleagues at the University of Szeged.

A disease called Hypertrophic Pulmonary Osteopathy is characterized by symmetrical new bone formations on the long bones. Based on the archaeological record, it has been suggested that tuberculosis might have caused HPO thousands of years ago. HPO is a rare find in the [archaeological record](#), making it difficult to verify this hypothesis.

In this study, the authors examined seventy-one human skeletons from a 7000-year-old site in the south of Hungary. They found numerous cases of infections and metabolic diseases, and some skeletons showed signs of HPO and therefore potentially tuberculosis. They focused on one skeleton in particular to verify this hypothesis, and analyzed the ancient DNA and lipids from its bones to do so. Both tests confirmed the presence of the bacterial complex associated with tuberculosis.

This is one of the earliest known cases of HPO and [tuberculosis](#) to date, and helps shed new light on this European community in prehistoric times. Masson adds, "This is a crucial find from a fantastic site. It is not only the earliest occurrence of fully-developed HPO on an adult skeleton to date, but also clearly establishes the presence of Tuberculosis in Europe 7000 years ago."

More information: Masson M, Molnár E, Donoghue HD, Besra GS,

Minnikin DE, et al. (2013) Osteological and Biomolecular Evidence of a 7000-Year Old Case of Hypertrophic Pulmonary Osteopathy Secondary to Tuberculosis from Neolithic Hungary. PLoS ONE 8(10): e78252.
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