

Syphilis in pre- Columbian Denmark

A paleopathological, archaeometric and historical approach

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Abstract

A pre-Columbian existence of the *Treponema pallidum pallidum* bacterium in the Old World is still controversial, although single findings of possible syphilitic lesions were made all over Europe. The conclusion of the historical research does not differentiate from those made for the rest of the Old World, i.e. syphilis is not mentioned before the return of Christopher Columbus in 1493.

The aim of this paper is to consider new cases from Denmark that emerged during a study of more than 1000 skeletons from both German and Danish medieval cemeteries.

Five pre-Columbian individuals from three different Danish burial sites on Funen, Jutland and Zealand suggest an infection with some kind of treponematoses. Two of the skeletons show cranial lesions, i.e. rounded depressions on the right and left parietal bone, the other three only display periosteal reactions of varying degrees on the postcranial skeleton. None of the 247 examined subadult individuals showed signs of congenital syphilis.

Besides the paleopathological examination, also the archaeometric research (Radiocarbon dating and radiological imaging) supports the pre-Columbian existence of treponematoses in the Old World. Radiocarbon dating shows that all five skeletons predate AD 1493 at a level of 95% confidence. The conducted computed tomography scans showed focal obliteration of the periosteum on long bones as well as on the affected skulls. Considering climate and geography of the findings, venereal syphilis might be the treponemal disease causing pathologies among these skeletal remains. This could be answered by aDNA analyses, which are in progress at present.

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