Poster

Dental degradation:
Histological characterization of post-mortem alterations in archaeological teeth

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Abstract

Isotopic and genetic assays of archaeological skeletal material are increasingly being applied in archaeological research. For such investigations, teeth are often the preferred substrate. With respect to isotopic work, teeth can yield signals from different periods of an individual's life-time, useful in dietary reconstruction, climate research, and investigation into mobility of people and animals in the past. Additionally, it is generally accepted that teeth preserve biomolecules (e.g. DNA, collagen) and isotopic signals better. Despite the importance of dental tissue in archaeological research, no systematic study has been carried out concerning diagenetic alterations at histological scale.

This poster will show some of the results of a thorough histological characterisation of post-mortem alterations observed in 34 ancient teeth. Such alterations are well described in bone whereas similar analyses of teeth are scant. Extensive alteration may occur, also in teeth, which highlights the need for diagenetic screening before analysis. Micrographs have been made, illustrating typical diagenetic features occurring within the dental tissues cementum, dentine and enamel including bioerosion, cracking, etching and staining. The aim is to produce a photo catalogue which can be used by others within fields such as archaeology, forensics and palaeontology.

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