The influence of diet on Zn isotope ratios in mammal tissues: what can we learn from archeological skeletal remains?

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Zn stable isotope composition ($\delta^{66}Zn$) in mammal tissues are a promising proxy for diseases such as breast cancer, as well as diet. In order to promote its application to a medical framework, it is crucial to understand how the consumption of different food categories influence the variability of $\delta^{66}Zn$ values in different organs and tissues. We will present results from several studies performed by our team on archeological food webs and human teeth which highlighted the ranges of $\delta^{66}Zn$ values associated to meat, fish, plant and also breastfeeding milk consumption. We will reconstruct and compare the diet of prehistoric inland hunter-gatherers of tropical and coastal sedentary populations from subtropical environments in Brazil (Lapa do Santo in Minas Gerais and Jabuticabeira II in Santa Catarina) to prehistoric and historical farmers-herders from temperate coastal and inland environments (various sites in Brittany, France). We will also demonstrate that geology and body mass are two parameters to take into account when interpreting $\delta^{66}Zn$ values of body tissues.

Ackowledgments: This project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement No 803676, project ARCHEIS) as well as the Deutsche Forschungsgemeinschaft (DFG) (grant agreement No 378496604, project PALAEODIET) and the Max Planck Society.