
Reassessing Mesolithic human diet, mobility and funerary practices in the Cantabrian Region (northern Spain) throughout dental calculus, stable isotopes and funerary taphonomy analyses.

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Abstract

The Cantabrian Region (northern Spain) contains one of the most important record of burial practices during Mesolithic in Iberia. Three types of burial contexts have been documented: 1) human bodies buried in well-defined graves found within shell middens and in caves; 2) isolated human remains into shell middens; and 3) surface findings on the cave floors, where the evidence of inhumation is unclear due to the available evidence. This rich archaeological record provides an opportunity to understand the symbolic behaviour, subsistence strategies and mobility patterns of Mesolithic groups. Previous isotopic analysis of some regional Mesolithic human remains showed two different diets, depending on the geographical site location. While in coastal sites, $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values reflected a mixed diet of marine and terrestrial proteins, in inland areas the results showed a mainly terrestrial diet. This fact was interpreted as evidence for the different use of the territory by the regional hunter-gatherer groups. Here we report the results of new human remains found during recent excavations at El Mazo, El Toral III or ou Amieva sites, as well as the assessment of funerary contexts as Mazaculos II and La Paré de Nogales, excavated in the past. Firstly, a taphonomical analysis has allowed to define and reevaluate the funerary practices distinguishing disturbed primary burials from isolated human remains and ascertain how taphonomical processes, common in karstic systems, modified those deposits. Later, $\delta^{13}\text{C}$, $\delta^{15}\text{N}$ and $\delta^{34}\text{S}$ stable isotope analyses, on bone collagen, have verified the previous hypothesis and have confirmed the importance of marine resources in the Mesolithic diet. In addition, and for

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the first time, $\delta^{34}\text{S}$ analyses permitted to corroborate the mobility of the Mesolithic human groups along the region, much more restricted than in Paleolithic times and mainly local. Finally, an analysis of microfossils entrapped in the dental calculus has supported the relevance of plant consumption, complementing in this way the stable isotopes results, which mask this type of resources.

Keywords: Mesolithic, Cantabrian Region, stable isotopes analysis, dental calculus, funerary taphonomy