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The Byzantine necropolis of Tell es-Sin: an anthropological study



The Tell es-Sin (Mount of the Tooth) site, located on the border of what is now known as Syria and Iraq, corresponds to a Byzantine settlement, whose study must be interpreted within the historical context of the eastern Limes Diocletianus, between the 5th century AD, and the arrival of the Arabs in AD 637. A period still quite unknown due to the scarcity of necropolis of this time. In this article, researchers from the Faculties of Biology and Biosciences give an account of the anthropological characteristics of its inhabitants, based on the human remains recovered during excavations carried out between 2005 and 2008.

Tell es-Sin is a Byzantine site located at the confluence of the Euphrates and Khabur rivers, in the present-day city of Deir ez-Zor (Syrian-Iraqi border). In the VIIth century, the region represented the eastern limit of the Byzantine Empire, integrated into what is known as the limes Diocletianus, a strongly fortified border to confront with the eternal enemy, Persia (Sassanid) and Arab incursions from the desert. Despite the strategic and military importance that Tell es-Sin may have had, given the location and surface of the site, the name of the ancient *kastron* is still unknown today. It has been speculated that it was an ancient polis, organized into three distinct regions: the Acropolis, the Lower City, and the Necropolis.

The site was initially excavated in 1978, although it was not until 2003, following the construction

of a road, when, under the direction of Dr. Assad Mahmud, director-general of Antiquities and Museums at Deir ez-Zor systematic excavations were resumed again at the site. In this context, in 2005 a Spanish multidisciplinary team led by the University of A Coruña joined the excavation, highlighting the importance of the necropolis with an area of approximately 7 hectares. Since then, more than 170 hypogea have been located out of the estimated one thousand hipogea that the necropolis may have had. The hypogea represents an underground funerary structure excavated directly into the bedrock with an access descent staircase within which there were normally 3 reusable funerary niches. Systematic excavations have revealed that most of the burials were Christians (Greek biblical anthroponymic inscriptions have been found, as well as multiple pendants with the Greek Christian cross). The end of the settlement of Tell es-Sin, in the first quarter of the seventh century CE, coincided with the wars against the Sassanid Persians and the Arab tribes.

The study is based on the analysis of the recovered human remains of ten hypogeums excavated between 2005 and 2008, adding up to 71 individuals (8 male and 12 female have been identified). Despite this fact, no bias was observed concerning sex or age, highlighting the lack of children compared to other contemporary Byzantine sites. Likewise, there are at least one to five individuals buried within each niche (an average of three individuals per niche, including subadults and adults), according to the typical mass burial model from ancient Syria. The state of preservation and the high fragmentation of the skeletal remains have made it difficult to study them exhaustively. Despite this, the average height could be estimated from long bones of the upper extremity (174.5 cm for men and 159.1 cm for women) and the diameter of the head of the femur (176.1 cm for male individuals and 164.5cm for females). Also, about 25% of individuals had cribra orbitalia, and 8.5% had porotic hyperostosis, alterations in the cranial bones traditionally associated with anemia due to iron or vitamin deficiency, rickets, infection, or other inflammatory conditions. The prevalence of degenerative joint disease was also low, the study notes. Finally, only 2.8% of the teeth had caries, a value clearly lower than other contemporary Byzantine sites in the region that could be related to the low analyzed sample of the Tell es-Sin site.

Image: Study of the human remains recovered at the Tell es-Sin site



In conclusion, the osteological remains of Tell es-Sin represent a heterogeneous and skewed osteological set, which has been looted for centuries. The bones are highly mixed within each niche, which, together with the poor state of preservation and the presence of several individuals in each niche, makes detailed analysis difficult, despite the paramount importance inherent in the remains themselves. (there is no other necropolis comparable to the region) as of the ancient kastron.

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