

DIFFUSE IDIOPATHIC SKELETAL HYPEROSTOSIS IN A SKELETAL INDIVIDUAL: A CASE STUDY

*Eva Petrejčiková¹, Jana Galová¹, Sona Kalafutová², Lesana Kmetová¹, Peter Tajkov³ and
Arpad Balogh³*

¹University of Presov, Faculty of Humanities and Natural Sciences, Department of Biology, Presov, Slovakia; ²University of Presov, Faculty of Health Care, Department of Technical Disciplines in Health Care, Presov, Slovak Republic; ³Technical University of Kosice, Faculty of Arts, Department of Theory and Art History, Kosice, Slovak Republic

Background: Diffuse idiopathic skeletal hyperostosis (DISH), also known as Forestier's disease, is a non-inflammatory degenerative disease of the spine and peripheral tendon attachments, characterized by calcification and ossification. In the axial skeleton, it primarily affects the ligamentum longitudinale anterius, but also the ligamentum longitudinale posterius and ligamenta flava, leading to the fusion of adjacent vertebral bodies.

Objective: The aim of this study was to describe and analyse the presence of DISH in an individual, based on observed morphological changes in the skeletal remains.

Materials and methods: Skeletal remains exhumed from a defunct Minorite church in the Rad village (Eastern Slovakia), were analysed using classical anthropological methods with a focus on estimating age, sex, and ancestry (AncesTrees program), as well as identifying developmental anomalies and pathological changes. The diagnosis of DISH was based on the criteria defined by Resnick and Niwayama.

Results: According to historical and anthropological records, the individual belonged to the Order of Minorites who lived in the area between 1637 and 1767. The skeletal remains were identified as a male (~50 years) of probable Southwestern European origin, exhibiting the skeletal manifestations of DISH. The diagnosis was supported by flowing ossification along the anterolateral aspect of the cervical (C5–6) and thoracic (Th3–6) vertebrae with characteristic preservation of the intervertebral disc spaces. Some rib fragments showed ectopic ossification of the costal cartilages and pronounced enthesopathic remodelling. Additional degenerative changes included thickening of the C1 vertebra, osteophytes, ossification of the thyroid cartilage, and the presence of Schmorl's nodes. Cribra orbitalia and enamel hypoplasia were observed as indicators of long-term physiological stress.

Conclusion: This study confirmed the chronic stage of DISH in a male characterized by axial ankylosis with a probable impact on the individual's mobility. The findings contribute to the palaeopathological understanding of DISH manifestations in historical populations.

Keywords: Axial ankylosis; Enthesopathy; Forestier's disease; Paleopathology; Eastern Slovakia.