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Skeletal Trauma Patterns in Falls: An Illustrative Case from the CEIC Identified Skeletal Collection

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Abstract

Background: Falls represent one of the most common causes of accidental trauma and death, particularly among elderly individuals (1). In forensic anthropology and forensic pathology, the identification of fracture patterns compatible with falls is essential for reconstructing the mechanism of injury and differentiating accidental trauma from other causes such as interpersonal violence (2). Documented skeletal collections provide valuable material for illustrating and studying trauma patterns under known contextual information. **Objective:** The aim of this work is to present an illustrative case from the Identified Skeletal Collection of CESPU (CEIC) demonstrating skeletal lesions consistent with fractures typically associated with falls, and to compare the observed injuries with patterns described in the forensic and clinical literature. **Methods:** A documented individual from the CEIC presenting skeletal trauma compatible with fall-related injuries was selected. A macroscopic analysis of the skeleton was performed in to identify fracture location, morphology, and distribution. The observed lesions were then compared with trauma patterns commonly described in the literature for accidental falls. **Results:** The analyzed case presented fractures affecting anatomical regions frequently involved in fall-related trauma. These included lesions in the cranial region and in skeletal elements of the upper limbs that are commonly associated with protective reactions during impact. The distribution and morphology of the fractures were consistent with blunt force trauma produced by a fall (3). When compared with previously reported patterns in the literature, the injuries observed in this individual correspond to typical skeletal manifestations described in accidental fall scenarios (4). **Conclusions:** This illustrative case highlights the potential of documented skeletal collections for demonstrating characteristic trauma patterns associated with specific mechanisms of injury. The comparison with previously reported cases supports the interpretation of the observed lesions as compatible with falls and emphasizes the relevance of skeletal trauma analysis in forensic investigations.

Keywords: Falls; Skeletal trauma; Fracture patterns; Forensic anthropology; Identified skeletal collections.

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