Prevalence and Pattern of Mandibular Third Molar Impaction in a Sample of the Albanian Population: A Retrospective Cross-Sectional Study on Digital Panoramic Radiographs

Anis Thodhorjani[1*], Ramazan Isufi[1], Elona Kongo[2]

[1] Department of Oral-Maxilo-Facial Surgery; Faculty of Dental Medicine; University of Medicine, Tirana, Albania
[2] Department of Dentistry; Faculty of Medical Sciences; Albanian University, Albania

Abstract

Background: Mandibular third molars (M3M) are the teeth with the highest prevalence of impaction.

Aims: The aim of this retrospective cross-sectional study was to evaluate the prevalence and impaction patterns of M3M in a selected Albanian population using digital panoramic radiographs (DPR).

Study design: Retrospective.

Methods: DPRs of adult patients seeking various dental treatments taken between January 2023 and March 2025 were evaluated, and a total of 650 DPR with at least one impacted M3M (M3MI) were included in the study and evaluated with Winter`s and Pell & Gregory classifications.

Results: The prevalence of M3MI was 33.2%. Of the affected individuals, 119 presented with bilateral impaction, while 97 exhibited unilateral impaction. Impaction depth according to Pell & Gregory revealed that most prevalent were position B (49.2%) followed from position A (26.5%) and position C (21.1%). The distance from ramus shows that Class II is the most prevalent with 43.2%, and class III 38.5%. According to Winter`s classification the vertical impaction (VI) type was more prevalent (41.8%), followed from mesio angular MA (36.1%).

Conclusion: This study identified a notable prevalence of M3MI. The most frequently observed impaction type was Class II, Level B according to the Pell&Gregory classification and the VI type. Moreover, the prevalence of caries

Address for correspondence: Anis Thodhorjani*, Department of Oral-Maxilo-Facial Surgery; Faculty of Dental Medicine; University of Medicine, Tirana, Albania. E-mail: anis_thodhorjani@yahoo.com

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on adjacent mandibular second molar (M2M) was high.

Keywords: mandibular third molar, impaction, digital panoramic radiograph