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Evaluation of position and course of the posterior superior alveolar canal by CBCT in Iranian

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Introduction: Assessment of maxillary sinus anatomy and its blood supply is necessary before implant placement and sinus augmentation.

Objectives: The study aimed to assess the prevalence of different positions of posterior superior alveolar artery (PSAA) and measure the distance from the vascular canal to the sinus floor and alveolar crest using CBCT.

Materials and methods: This study was conducted on 150 CBCT images obtained from patients presenting to an Oral maxillofacial imaging center. The distance from the lower border of the vascular canal to the sinus floor and alveolar ridge crest was measured and the mediolateral position of PSAA was evaluated.

Results: Of the used databases, PSAA was detectable in 150 cases. Intraosseous canal was seen in 51.30% of cases. The lowest distance between the inferior border of the vascular canal and the sinus floor was at the first premolar (4.82 ± 2.45 mm) and the highest distance was at the first molar site (5.82 ± 2.39 mm). The lowest distance from the lower border of the alveolar canal to the alveolar crest was at the first molar site (15.54 ± 2.76 mm) while the highest distance was at the first premolar site (20.81 ± 2.96 mm).

Conclusions: The prevalence of the PSA canal on CBCT images in the selected population was 25%. The most common position of the canal was reported in intraosseous position.

Key words: CBCT, Posterior superior alveolar artery, Sinus augmentation.