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Correlation of radiomorphometric indices of the mandible and mandibular angle fractures

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This study assessed the correlation of radiomorphometric indices of the mandible and Mandibular Angle Fractures (MAFs) in an Iranian population. This retrospective study was conducted on 3D Cone-Beam Computed Tomography (CBCT) scans of 118 patients between 18 to 60 years. The images were divided into two groups with MAFs and other types of mandibular fractures (non-MAF). The gonial angle, ramus height, condylar neck width, minimum ramus width and mandibular length were all measured using MARCO PACS software. Age, gender and presence and eruption status of third molar at the fracture side were all recorded. The correlation between these parameters and MAF was analyzed using R software ($\alpha=0.05$). Of all patients, 41 samples had MAF. The two groups were not significantly different regarding the mean age and gender ($P>0.05$). The mean size of gonial angle and ramus height in the MAF group were significantly larger and smaller than the corresponding values in the non-MAF group, respectively ($P<0.001$). The median minimum ramus width in the MAF group was significantly smaller than that in the non-MAF group ($P=0.001$). Patients with a large gonial angle had 6.6 times higher odds of MAF compared with other fracture types ($P=0.046$). Condylar neck width, mandibular length and erupted third molars had no significant correlation with type of fracture. Presence of impacted third molar increased the odds of MAF by 5.55 times.

Patients with a large gonial angle, short ramus height, minimum ramus width and impacted third molar are more susceptible to MAF. Surgeons can use these indices to predict the risk of MAF in trauma patients with such facial characteristics and make a diagnosis by simpler radiographic modalities such as panoramic radiography.

Recent publications

1. Aida Karagah, Reza Tabrizi et al (2022) Effect of Sinus Floor Augmentation with Platelet-Rich Fibrin Versus Allogeneic Bone Graft on Stability of One-Stage Dental Implants: A Split-Mouth Randomized Clinical Trial. *Int J Environ Res Public Health*. 2022 Aug 4;19(15):9569
2. Reza Tabrizi, Karagah et al (2017) Does platelet-rich fibrin increase the stability of implants in the posterior of the maxilla? A split-mouth randomized clinical trial. *Int J Oral Maxillofac Surg*. 2018 May;47(5):672-675.
3. Reza Tabrizi, Karagah et al (2015). Does platelet-rich plasma enhance healing in the idiopathic bone cavity? A single-blind randomized clinical trial. *Int J Oral Maxillofac Surg*. 2015 Sep;44(9):1175-80.

Biography

Aida Karagah has completed her maxillofacial specialty in 2017 from Shiraz University, Iran. She is an assistant professor of Qazvin University of medical sciences, Iran. She has over 12 publications that have been cited over 328 times and her publication H-index is 9. She has been serving as a review committee member of reputed journals as well.

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