

Atlas rotation and mandibular deviation by Cone Beam CT

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Cervical vertebrae and mandible are functionally related and some evidences suggest a strong correlation between their relative position and orientation (Huggare et al., 1996; Nisayif et al., 2005). In this study TC Dental Scan with cone beam technology was used to study the relationship between atlas and mandibular rotation in 205 patients. Using a digitalized images analyser, we calculated the axial rotation of atlas and mandible, measuring the angle with respect to the frontal plane. We found that 80.98% of patients presented the axial rotation of the mandible in the same direction of atlas rotation compared with 19.02% of patients that presented opposite directions. Among the consistent group, 71.08% of patients had a left rotation compared with 28.92% that had a right rotation. Moreover, considering the absolute values of the rotation, we observed that the atlas had a more marked rotation with respect to the mandible and that the values of left rotations were higher with respect to the value recorded for right rotations both for the mandible and atlas measurements. This study represents a starting point to better characterize the relationship between atlas and mandible; further studies are necessary to better understand the importance of this data from a functional and clinical point of view.

References

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Keywords

Atlas, mandible, CBCT.