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Abstract

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The aim of this study was to evaluate the accuracy and reproducibility of computed tomography (CT) image interpretation made in axial slices (2D-CT) and 3D reconstructed images (3D-CT) of patients with craniofacial anomalies. The analyses were made by undergraduate dental students, and compared with the diagnoses considered upon surgical intervention. Computed tomography of 43 patients were analyzed independently by three calibrated examiners (undergraduate students) with, respectively, one, two, and three semesters of experience in craniofacial CT training and interpretation. The analysis of 2D-CT and 3D-CT images were performed at distinct times using an independent workstation associated with a specific computer graphics software for volumetric images. The analysis of inter-examiner agreement and of the agreement between observers and the gold standard was performed using the Kappa test. The accuracy evaluation presented a progressively higher value for examiners with progressively broader experience in 2D-CT and 3D-CT image interpretation. 3D-CT analyses allowed a higher inter-examiner agreement (1 - 0.896) than 2D-CT analyses (1 - 0.614). 3D-CT was considered more precise and accurate than 2D-CT for all students' evaluations. The reproducibility and accuracy varied according to the experience in CT interpretation, and the most experienced student achieved results closer to the gold standard.

Keywords : Tomography; Face; Craniosynostosis; Craniofacial abnormalities.

• abstract in portuguese • text in english • pdf in english

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