

Letter to the Editor

About Assessment of Carotid Artery Calcifications on Radiographs



To the Editor,—We have read with special attention one of the latest articles in the International Dental Journal entitled “Assessment of Carotid Artery Calcifications on Digital Panoramic Radiographs and Their Relationship With Periodontal Condition and Cardiovascular Risk Factors”¹ and we would like to congratulate the authors on their study. However, there are a few concerns regarding this article that we would like to share with the authors.

The first issue refers to the fact that even though the sample size of the study is consistent, there is only one examiner who performed the analysis of panoramic radiographs to identify the calcifications in the carotid artery. Therefore, even though the authors make a valid point in mentioning an experienced oral and maxillofacial radiologist made the assessments, that is not adequate. It would be preferable to have more than one trained and calibrated examiner for greater internal validity.²

Another point to be addressed is the detection of calcifications in the carotid artery (CAC) in 34 panoramic radiographs of which 2 are presented in the article (Figures 1 and 2). CAC, on panoramic radiography, is a curvilinear irregular parallel radiopaque mass, located inferior to the hyoid bone, about 1.5 to 2.5 cm inferior posterior to the angle of the mandible adjacent to the cervical spine or below the third and fourth cervical vertebrae.^{3,4} However, the radiographic images in the article show a single opacification, dense, homogeneous, and ovoid, inferior to the tip of the greater cornu of the hyoid bone. These images are suggestive of calcification of the triticeous cartilage.^{3,4}

Finally, we would like to comment about the accuracy of using panoramic radiography for CAC detection. Even though panoramic radiography is an important detection method used by dentists to identify calcifications, it has a low sensitivity and specificity for the analysis in question.⁵ For that reason, underdiagnosis of CAC may have occurred.^{6,7}

We have been enlightened by this work. The considerations above are only intended to assist in the scientific discussion.

Conflict of interest

None disclosed.

REFERENCES

1. Çetin MB, Sezgin Y, Yilmaz MNN, Seçgin CK. Assessment of carotid artery calcifications on digital panoramic radiographs and their relationship with periodontal condition and cardiovascular risk factors. *Int Dent J* 2021;71(2):160–6.
2. SM Callegari-Jacques. Bioestatística princípios e aplicações. *Artmed*; 2003:264.
3. Scarfe WC, Farman AG. Soft tissue calcification in neck: maxillofacial CBCT presentation and significance. *Am Assoc Dent Maxillofac Radiogr Tech* 2010;2(2).
4. Carter LC. Discrimination between calcified triticeous cartilage and calcified carotid atheroma on panoramic radiography. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2000;90(1):108–10.
5. Khosropanah SH, Shahidi SH, Bronoosh P, Rasekhi A. Evaluation of carotid calcification detected using panoramic radiography and carotid Doppler sonography in patients with and without coronary artery disease. *Br Dent J* 2009;207(4):E8. discussion 162–3.
6. Yeşilova E, Bayrakdar İŞ. Radiological evaluation of maxillofacial soft tissue calcifications with cone beam computed tomography and panoramic radiography. *Int J Clin Pract* 2021;75(5).
7. Takahashi A, Sugawara C, Kudoh T, et al. Prevalence and imaging characteristics of palatine tonsilloliths evaluated on 2244 pairs of panoramic radiographs and CT images. *Clin Oral Investig [Internet]* 2017;21(1):85–91 Available from <http://dx.doi.org/10.1007/s00784-016-1752-0>.

Pietra Rodrigues Antonello
Thiago de Oliveira Gamba
Heraldo Luís Dias da Silveira*

Oral Radiology Division, Department of Surgery and Orthopedics, Dental School, Federal University of Rio Grande do Sul, Rua Ramiro Barcelos, Porto Alegre, RS, Brazil
School of Dentistry, Caxias do Sul University, Rua Francisco, Getúlio Vargas, Caxias do Sul, RS, Brazil

*Corresponding author. Surgery and Orthopaedics Department, Federal University of Rio Grande do Sul, Av. Ramiro Barcelos 2492, 5th, 90035000, Porto Alegre, Brazil.
E-mail address: heraldo.silveira@ufrgs.br
(H.L.D. da Silveira).

0020-6539/© 2021 The Authors. Published by Elsevier Inc. on behalf of FDI World Dental Federation. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)
<https://doi.org/10.1016/j.identj.2021.09.002>