

Original Article

Doppler Sonography Confirmation in Patients Showing Calcified Carotid Artery Atheroma in Panoramic Radiography and Evaluation of Related Risk Factors

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Received: 26 Jun 2011; Accepted: 18 October 2011

J Dent Res Dent Clin Dent Prospect 2012; 6(1):6-11 | doi: 10.5681/joddd.2012.002

This article is available from: <http://dentistry.tbzmed.ac.ir/joddd>

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Abstract

Background and aims. The purpose of this study was to identify patients at the risk of cerebrovascular attack (CVA) by detecting calcified carotid artery atheroma (CCAA) in panoramic radiography and evaluating their risk factors.

Materials and methods. A total of 960 panoramic radiographs of patients above 40 years old were evaluated. Doppler Sonography (DS) was performed for patients who showed calcified carotid artery atheroma (CCAA) in panoramic radiography in order to determine the presence of CCAA and the degree of stenosis. Cardiovascular risk factors in both groups of patients with CCAA (12 subjects) and without CCAA (3 subjects) were compared using a questionnaire filled out by the patients. Statistical analysis including Fisher and independent t-test applied for data analysis.

Results. Fifteen patients (30 sides) showed calcification in their panoramic radiographs, and underwent DS which revealed CCAA in 16 sides (12 patients). Two patients (13.33%) showed stenosis greater than 70%. Among the risk factors, only age showed a significant association with the occurrence of carotid calcified atheroma (P=0.026).

Conclusion. Considering the results, dentists should refer especially elderly patients with radiographically identified atheromas for further examinations, as asymptomatic CCAA might be associated with high degrees of stenosis.

Key words: Calcified carotid artery atheroma, Doppler sonography, panoramic radiography.

Introduction

Carotid atheroma is an atherosclerotic process occurring along the lumen walls of the common

carotid artery near its bifurcation. Pieces of the atheroma may ulcerate and become detached to form an embolus that can occlude smaller intracerebral arteries, causing stroke.¹ Approximately 80% of the