Palatal caliber persistent artery in a diabetic patient

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Cover Page Footnote
Peer review under responsibility of Faculty of Oral & Dental Medicine, Future University.

This article is available in Future Dental Journal: https://digitalcommons.aaru.edu.jo/fdj/vol2/iss2/9
Palatal caliber persistent artery in a diabetic patient

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1. Introduction

Diabetes mellitus encompasses a group of genetically and clinically heterogeneous metabolic disorders characterized by hyperglycemia depletion of antioxidants, and alteration in lipid metabolism. Diabetes mellitus (Type 2) characterizes an insulin resistance which progresses into an insulin deficiency due to a secondary failure in the pancreatic beta-cells. Given the pathophysiology of diabetes-related complications, diabetic patients develop a relatively higher vulnerability of the mucosa upon exposure to various ulcerogens, ischemia or reperfusion, stress, and nonsteroidal anti-inflammatory drugs [1–4]. A wide diversity of inflammatory - either fungal, viral or bacterial- and neoplastic palatal lesions may overlap; complicating the diagnosis of unusual representations. Accordingly, meticulous care should be rendered to avoid unnecessary procedures and to eschew improper treatments, especially in chronic diabetic cases.

2. Case history

A 66-year-old female, non-smoker and non-alcoholic, has suffered a painful palatal lesion. The ulcerative palatal lesion had an insidious onset, but turned painful for two weeks without any response to placebo (Antibiotics, NSAID, anti-fungal and topical gels) (Fig. 1a). An incisional biopsy was cut for microscopic examination.

Caliber persistent artery is a rarely reported lesion which prefers, given the underpinned literature, the labial arteries. This paper reports a very rare case of an isolated palatal ulcerative lesion in a non-insulin dependent diabetic patient. The patient refused to run any radiological tests, other than the periapical radiograph, but consented the incisional biopsy. Therefore, histochemical and immunohistochemical stains were ushered to establish, non-invasively, a diagnosis. Accordingly, this paper explores the diagnostics and differential diagnosis of caliber persistent artery and reviews briefly the previously reported cases.

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3. Discussion

As regards chronic diabetic complications, bone marrow-derived hematopoietic cells were recently considered proinflammatory and infiltrative to tissues inducing microvascular complications in addition to the dysregulated biochemical pathways downstream of hyperglycemia [5]. Miko et al. first described, in 1980, a developmental anomaly referred to by them as persistent caliber artery. The artery becomes superficial toward the midline, and the persistent size makes it palpable, usually a few millimeters.

Fig. 1. Clinical picture displaying exophytic ulcerative lesion, located at the anterior palate.

Fig. 2. X-ray showing normal maxillary trabeculae. Neither dental caries nor any radicular lesion is evident.

Fig. 3. Photomicrograph revealing dense collagen of two layers of spindle cells running in different directions, which are surrounded by inflammation (H&E stained, Original magnification: 10x).

Fig. 4. Photomicrograph of higher magnification characterizing the inflammatory infiltrates around the arterial wall. (H&E stained, Original magnification: 40 x).

Fig. 5. Photomicrograph displaying strong immunoreactivity of the arterial thickening for SMA. (Original magnification: 10 x).
invasive. This should combine consultative efforts between medics and paramedics towards providing the best diabetic care for the patients.

Conflict of interest
None.

Funding sources
None.

Acknowledgments
I would like to acknowledge Prof. Dr. Brad W. Neville (USA) for his diagnostic tips. I am also thankful to Dr. Futtma Cerag, Dr. Hekmatullah Subry and Dr. Husein M. Subry (Egypt) for their help.

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