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Morphology of maxillary first molars analyzed by cone-beam computed tomography among Malaysian: Variations in the number of roots and canals and the incidence of fusion

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Introduction: The aim of this study was to identify the root and canal morphology of the maxillary first molars among Malaysians analyzed by Cone-Beam Computed Tomography (CBCT) images.

Methods: Maxillary first (n=103) molars from Malaysian patients (n=55) of Malay, Chinese and Indians origins were examined by two endodontists using *in vivo* CBCT methods. The number and configuration of roots, the number of root canals, and the canal configuration according to Vertucci's classification were determined.

Results: Single roots were not found in maxillary first molars. The incidence of fused roots was 2.4% in the first molars between mesiobuccal and distobuccal roots. In (103) 3-rooted maxillary first molars, additional canals were found in 54.44% of the Mesiobuccal (MB) roots and 0% of the Distobuccal (DB) roots. Bilateral symmetry of the MB roots was found in 82.36% of the first molar.

Conclusions: The root and canal configuration of a Malaysian population showed different features from those of other populations. CBCT scans can enhance the understanding of root canal anatomy, with the potential of improving the outcome of endodontic treatment.

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A case of pemphigus vulgaris developing neuropathic pain

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Background: Pemphigus vulgaris (PV) is an uncommon, mucocutaneous, blistering disease of autoimmune etiology. Majority of cases first appear in the oral cavity whose diagnosis relies on histopathology and immunofluorescence studies. Corticosteroids and immunomodulators are the mainstays of treatment. We describe a patient with oral pemphigus vulgaris who developed burning mouth and taste alteration during the course of his disease. The possible association is discussed.

Case Summary: A 73 year old male with previously diagnosed pemphigus vulgaris presented with an oral flare up to the oral medicine clinic for management. His past medical history included Diabetes type II, Hypercholesterolemia, Arthritis and Hypertension. His medications included Metformin, Rosiglitazone, Atrovastatin, Alendronate, and Losartan-hydrochloro thiazide combination. He was placed on systemic steroids and Dexamethasone oral rinse. Prednisone was tapered and recalcitrant lesions were injected with Kenalog suspension. Two months later, the patient developed oral burning and bitter metallic taste which did not respond to discontinuation of topical and intralesional steroids. The patient was diagnosed with phantom taste and started on clonazepam. Over time, dysguesia improved by 50%; residual symptoms resolved when patient placed on Pregabalin by his neurologist to treat chronic pain in his right leg.

Conclusion: The etiology of patient's oral symptoms is unclear. Oral complaints may represent previously reported side effects of steroids used in the management of pemphigus or may be neuropathic in nature. The oral neuropathy may be related to poor glycemic control; however, patient's diabetes was well-controlled. Studies have suggested that neuritis is sufficient to induce altered nerve function. It is also possible that oral lesions of pemphigus induced perineural inflammation of the cranial nerves supplying the area and triggered neural fault. The resolution of oral symptoms with Clonazepam and Pregabalin support a neuropathic etiology.

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