

Unexpected Oro-Dental Pain and Symptoms for Serious Extra-Oral Pathology

Louis ZG Touyz*

Retired Professor, Faculty of Dental Medicine and Related Sciences, McGill University, Montreal, Canada

***Corresponding Author:** Louis ZG Touyz, Retired Professor, Faculty of Dental Medicine and Related Sciences, McGill University, Montreal, Canada.

E-mail ID: Louis.touyz@mcgill.ca or Touyzlouis@gmail.com.

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Abstract

Dental pain is usually derived from pathology of the teeth gingivae and adjacent bone. Recorded here are reports of unexpected oro-dentally related symptoms which preceded coronary thrombosis, CNS stroke, herpes zoster, phantom dental pain, the arrest of progressive blindness and brain cancer.

Keywords: Pain; Stroke; Coronary; Blindness; Herpes; Oral Malodor; Phantom; Varicella-Zoster

Abbreviations

CNS: Central Nervous System; CT: Coronary Thrombosis; DHCW: Dental Health Care Workers; MHCW: Medical Health Care Workers

Provenance and Introduction

Dental pain is prevalent globally and is encountered in all people who have a dentition. Usually, microbial infection is the initial pathology with dental pain deriving from the two major causes, namely caries and gum disease and/or sequelae from these. The dental pain is often well defined and the offending tooth identified. Cause-and-effect is clear and appropriate dental treatment prescribed. Yet there are rare cases sometimes known anecdotally, that defy clear-cut understanding, but presage serious morbidity or mortality although their pathophysiological mechanisms remain obscure.

Aim: Emphasized here are serious rare cases with reported oro-dental symptoms, like toothache, which are associated with serious extra-oral pathology. These embrace coronary thrombosis, a CNS stroke, herpes zoster, phantom dental pain, oral malodor and the arrest of progressive blindness highlighted below.

Coronary thrombosis (CT): The symptoms of a "heart attack" varies, and during the attack symptoms may include fainting, sweating, arrhythmias, fibrillation and oppressive chest pain, referred to as angina. Typically, angina pain radiates from the upper body down the left side and arm, and much has been written about angina being initiated by physical effort or stress. Silent heart attacks are known, but less known are heart attacks with toothache as the presenting symptom [1]. When tooth ache is reported and on examination no obvious pathology is manifest, CT should be included in the differential diagnosis.

CNS stroke

A cerebrovascular clot precipitates a stroke with consequent pathology as loss of function. Usually, people complain of a strong headache before onset of symptoms, and difficulty lifting their arms, with minor visual aberrations and difficulty enunciating words. From aphasia to one sided muscular paralysis, a stroke rarely may be heralded by a tooth ache before onset of paralysis. A general one-sided tooth ache is often reported and disappears once the paralysis sets in [2,3]. No obvious dental pathology exists.

Herpes zoster

Herpes zoster, known as 'Shingles' when it affects the body, manifesting vesicular-bullous eruptions over areas that follow neural innervation of the affected area. It may affect cranial nerves, often the trigeminal nerve (cranial nerve V), and the facial nerve (cranial nerve VII, and the geniculate Ganglion), on one side of the head and neck when it is termed 'Ramsey-Hunt Syndrome'. H. Zoster may affect any immune-compromised person, but is prevalent in seniors over sixty years old who have not been vaccinated. Prior to onset of itching, blister and crust formation infected patients may complain of toothache on the affected side [4]. No obvious dental pathology exists.

Phantom dental pain

The phantom tooth pain is a perceived orofacial pain from teeth or tooth locations after dental treatment or passed extractions even though no obvious identifiable cause is present on examination [5]. No obvious dental pathology exists.

Oral malodors

Oral malodors are not all caused by the oral biome. Ozostomia derives from the upper respiratory tract, and stomatodysodia from below the carina. Feter Oris originates from intra-oral plaque. Patients may perceive a foul smell or taste (Cacogeusia), which is of disrupted brain function. This psychological malfunction may be an early sign of a CNS brain tumor even though no obvious dental pathology exists [6,7]. Oral malodors may indicate pathologies such as stomach-ulcers, lung abscesses or neoplasias like pulmonary-, gastric- or other cancers [8].

Blindness and wisdom teeth

There is a possible linkage between the lymphatic, vascular and/or neural drainage of the wisdom teeth and the eyes. Post-operative blindness has been reported as a consequent complication of surgical extraction of third molars [9].

Another case is noted here. A Dental Health Care Specialist colleague noticed that his eyesight was slowly deteriorating. He had difficulty in focusing and unpredictable dark patches would appear and disappear in both eyes. He was in his fifties and after thorough medical and dental examinations, was informed by ophthalmic specialists that he would eventually become blind, although the exact cause remained obscure. Stressed by this prognosis and unknown diagnosis, he decided to prepare himself by learning Braille, and to have all and any elective work for his health done while he was partially sighted. He had few dental restorations but it was noted he had four symptomless impacted wisdom teeth. These were electively removed surgically under general anesthetic. After the surgical removal of the impacted third molars, his eyesight returned to normal and the deterioration stopped immediately. He continued to practice for decades after that [10].

Another case reported, by a practicing general dentist colleague, was that he had a patient who also noted improved eyesight after surgical removal of impacted wisdom teeth [11].

Discussion

Dental pain may be sudden, minor and short lived, like the pain from exposed cervical dentine. Often dental pain can become progressively worse and can reach maximum intensity with concomitant suffering and interference of function. Fear of this intense

aggravation has prompted many to take drastic action for relief. For centuries dentistry was regarded as an isolated problem, and exodontia with mechanical replacement with dentures was ubiquitous and common. Total clearance with extractions was the reflex reaction to toothache, and elective total exodontia was a common practice. Subsequently with advanced understanding of the anatomy, biochemistry, pathology and function Dentistry has evolved into a biological discipline as a specialty of General Medicine [12]. Retaining a full dentition in life is realistic mission for life and diagnosing the cause of dental pain is more challenging. Although sophisticated reparative dentistry is more available globally, prevention of tooth decay and gum disease remains most desirable [13]. The physiology of pain, pain syndromes, and how pain arises from dental structures are well described elsewhere [14]. The origin of dental pain is usually easy to define for cause-and-effect, as the vast majority of dental pain arises from decay, pulpitis, gingivitis or periodontitis. The combination of advanced knowledge and refined therapeutic skills have ensured that all dentistry be evidence-based. This ensures accurate diagnosis, successful targeted therapy, and retention of a healthy dentition. Unusual cases as described above are exiguous, but absence-of-evidence is not evidence-of-absence.

Concluding Remarks

Although most diagnoses of dental pain are obvious, unexpected oro-dental pain and symptoms may indicate other serious extra-oral pathology, and should always be included in a differential diagnosis. Oro-dental symptoms, like toothache and oral malodors, may be red flags for subsequent serious pathology and consequent morbidity or even mortality.

Author's Statement

The author has no conflicts of interest to declare.

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