

LETTER TO EDITOR:

Dentin Hypersensitivity: Recent Trends in Management

Shama Asghar

Madam,

Dentinal hypersensitivity (DH) is one of the most commonly encountered clinical problem.¹ It is characterized by short, sharp pain arising from exposed dentine in response to stimuli, (thermal, evaporative, tactile, osmotic or chemical) which cannot be ascribed to any other dental defect or pathology. DH is a painful clinical condition with an incidence ranging from 4 to 74%. A slightly higher incidence of DH is reported in females and most affected patients are in the age group of 20-50 years. Canines and premolars of both the arches are the most affected teeth.²

Three major mechanisms of dentinal sensitivity have been proposed in the literature.^{2,3} These are (1) Direct innervation theory (2) Odontoblast receptor (3) Hydrodynamic theory. Diagnosis of DH starts with thorough clinical history and examination.⁴ The other causes of dental pain should be excluded before a definite diagnosis of DH is made. A simple clinical method of diagnosing DH includes a jet of air or using an exploratory probe on the exposed dentin, in a mesio-distal direction, examining all the teeth in the area in which the patient complains of pain.⁵

By removing the etiological factors, (faulty tooth brushing, poor oral hygiene, premature contacts, gingival recession because of periodontal therapy or physiological reasons, and exogenous/endogenous non-bacterial acids) the condition can be even prevented from occurring or recurring.⁴ The patient should be taught the correct method of tooth brushing with the help of a model. A detailed dietary history should be taken. The quantity and frequency of the foods containing acids should be reduced. An occlusal splint can be fabricated to cover the affected areas, to prevent their contact with the acids.³ At home, desensitizing therapy include toothpastes, mouthwashes and chewing gums.⁴ Majority of the toothpastes, mouthwashes and chewing gums contain potassium salts, sodium fluoride, strontium chloride and stannous fluoride. Potassium salts act by diffusion along

the dentinal tubules, decreasing the excitability of the intradental nerve fibers by blocking the axonic action.¹ In-office, desensitizing agents (glass ionomer cement, composites, varnishes, oxalates) decrease the dentinal permeability by precipitation of calcium fluoride crystals inside the dentinal tubules. These crystals are partially insoluble in saliva. Copal varnish can be applied to cover the exposed dentinal surface. But its effect is for short term and is not recommended for long term management of DH.²

Resin-based dental adhesive systems can provide a more durable and long lasting dentine desensitizing effect.² They can seal the dentinal tubules effectively by forming a hybrid layer.⁵ Recently, some dentin bonding agents have been introduced in the market with the sole purpose of treating DH. Gluma desensitizer contains HEMA, gluteraldehyde and fluoride.³ HEMA forms deep resinous tags and occludes the dentinal tubules; Gluteraldehyde causes coagulation of the proteins inside the dentinal tubules.¹ The use of bioglass in management of DH forms an apatite layer, which occludes the dentinal tubules. Nd-YAG laser application coagulate the proteins inside the dentinal tubules and block the movement of fluid.⁴ Recently, milk protein casein (GC Tooth Mousse) has been used to develop a remineralizing agent.⁵ There is a need to provide awareness to the community regarding this preventable and commonly encountered clinical problem.

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✉ Dr. Shama Asghar

Assistant Prof. & Head

Department of Operative Dentistry

Dental Section.

Bahria University

Medical and Dental College, Karachi.

E-mail: shama.asghar@yahoo.com

Received: 14-11-2014

Accepted: 28-11-2014