

東北大学大学院歯学研究科
インターフェイス口腔健康科学
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Forum for Interface Oral Health Science

**Dentin Hypersensitivity - Controlled Clinical
Evaluation of Treatment Modalities**

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Abstract: Dentin hypersensitivity (DH) is defined as “pain derived from exposed dentin in response to chemical, thermal, tactile or osmotic stimuli, which cannot be explained as arising from any other dental defect or disease.” Prevalence data for DH vary from a few to almost 70 % of the population. The etiology is not yet completely understood, however Brännström’s widely accepted theory suggests that DH is due to stimulated hydrodynamic fluid shifts across exposed dentin with open tubules that in turn mechanically activate nerves situated at the inner ends of dentin tubules or in the outer layers of the pulp. Consequently, management of DH focuses on two gateways 1) tubule occlusion and 2) blocking the nerve activity through direct ionic diffusion.

Apart from OTC products, mainly desensitizing toothpastes, numerous in-office treatment modalities have been proposed for immediate pain relief, among others crystal precipitation, protein coagulation, laser treatment, and resin coatings. Although in vitro tests using various hydraulic conductance measuring systems can be useful screening tools, the ultimate proof for the short- and long-term efficacy of experimental or marketed products is controlled, randomized, double-blind clinical testing in split-mouth design, including placebo control or at least a positive control.

In this presentation two recently published clinical research reports from the Department of Conservative Dentistry and Endodontics at Vokkaligara Sangha Dental College and Hospital will be presented in detail. The first investigation compared the effect of a commercial oxalate product with a glutaraldehyde/HEMA topical desensitizing gel when tested against a placebo control throughout a six-months observation period on 50 patients with moderate to severe cervical sensitivity (average VAS score 6). In the second clinical trial tooth sensitivity during and after in-office bleaching with hydrogen peroxide was assessed following pre-bleaching application of Gluma PowerGel and placebo.

モデレーター: 島内英俊(歯内歯周治療学分野)

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