“Dentine hypersensitivity is not a new disease”

Interview with Dr Jolán Bánóczy, Hungary

Dentine hypersensitivity is recognised as a common dental condition and has been referred to as the ‘common cold of dentistry’. While worldwide studies reveal its pandemic nature, significant under-reporting compounds the problem. Up to 40 per cent of patients do not consult a dental-care professional about this pain, leaving the condition susceptible to under-diagnosis. Dental Tribune Editor Claudia Salwiczek spoke to Dr Jolán Bánóczy, Professor Emeritus of the Semmelweis University (Budapest, Hungary), about the basics of dentine hypersensitivity and what dentists can do to treat or prevent the condition.

Claudia Salwiczek: Would you explain dentine hypersensitivity to our readers in short?

Dr Jolán Bánóczy: Per definition, which was suggested by Dr Dowell and Prof. Aedy of the University of Bristol Dental School (Bristol, UK) in 1985, dentine hypersensitivity is a short, sharp pain arising from exposed dentine in response to stimuli typically thermal, evaporative, tactile, osmotic or chemical and which cannot be ascribed to any other form of dental defect or pathology. Although sensitivity can occur in any area on the tooth, the most common is the exposure of cervical dentine and that of the root surface.

How common is this condition?

Dentine hypersensitivity is a common clinical finding with a wide variation in prevalence values. And it is not a new disease: more than a hundred years ago, Dr Gyi discussed dentine hypersensitivity in the dental literature, describing the fluid movement in the dentinal tubules. Sixty years later, Prof. Brännström, Royal School of Dentistry (Stockholm, Sweden), investigated the development of dentine hypersensitivity and confirmed the hydrodynamic theory. Since then, many others have dealt with the problems of its symptoms, pathogenesis, differential diagnosis and therapy.

The growing interest today may be attributed to improving oral health and to the presence of more teeth at an older age.

What are the typical symptoms and causes of dentine hypersensitivity?

As mentioned earlier, the typical symptom is a short, sharp pain caused by stimuli at the exposed dentine. Two factors generally lead to dentine hypersensitivity: dentine exposure and the abrasive impact of toothpastes and open the dentinal tubules. Today, the focus has shifted to the abrasive effect of toothpastes. This is insignificant on its own but may be included in the aetiology when combined with other factors. Erosion is likely to cause buccal cervical lesions as intrinsic and extrinsic acids may enhance the abrasive impact of toothpastes and open the dentinal tubules by removing the smear layer.

Abrasion can also damage the teeth. Owing to stress on gingival edges, apatite crystals at the cervical area become more susceptible to chemical (erosion) and mechanical (abrasion) forces, resulting in wedge-shaped defects, especially on cervices and premolars.

Tooth wear caused by erosion, abrasion and attrition is a slow process, cumulating and usually undetected over many years. Over time, all these forces may lead to the opening of dentinal tubules, which is the key factor of dentine hypersensitivity.

What should practitioners do and what are the best treatment options?

Practising dentists should be aware of the possibilities of treatment, managing strategies and prevention. The response to dentine hypersensitivity has been largely treatment based for decades. Our present knowledge suggests that a combination of management strategies and treatment yield the best results.

A differential diagnosis and the identification and elimination of aetiological and predisposing factors are indispensable.

The two treatment options for dentine hypersensitivity are the occlusion of the dentinal tubules, thereby blocking the hydrodynamic mechanism, and the blockade of neural transmission at the pulp. Management methods, agents and materials can be reversible and non-reversible.

What preventive measures are available?

As with any other disease, dentine hypersensitivity can be prevented. The focus lies on three areas: oral hygiene, periodontal intervention and the avoidance of strong bleaching. New aspects are the appropriate timing of toothbrushing after consumption of acidogenic, erosive foods and beverages, as well as non-invasive (desensitising, potassium-nitrate/fluoride containing toothpastes) and invasive (reconstruction with fillings, coverage of the exposed roots) treatment options. Continuous care of patients suffering from dentine hypersensitivity—in order to prevent more serious consequences (such as irritation of the pulp)—is advisable.

Thank you very much for the interview.