Unlocking the secrets
Dental Tribune attended the truly global International Symposium on Dental Hygiene, held in Glasgow’s SECC in July

The international Symposium on Dental Hygiene, held at the SECC in Glasgow, was a truly global event with more than 1300 delegates attending from all parts of the globe.

With a host of speakers covering a wide range of topics it really was difficult to choose which lectures to see! Speakers included Prof Iain LC Chapple, Prof Christof Dörfer, Warren Greshes, and Prof John Thomas. The conference was well supported by the trade, with more than 50 companies taking exhibition stands.

With so much to see, I managed to attend a few lectures, including Warren Greshes’ Adding value to the dental practice and Patient centred therapy and outcomes: effective management of dentine hypersensitivity by Prof Philip Preshaw and Dr Martin Ashley. However, one of the stand-out lectures for me at the Symposium was Prof Michael Lewis’ presentation The role of the dental hygienist in the diagnosis and management of dry mouth in association with GSK.

Prof Lewis is professor of oral medicine and associate dean for post graduate studies in the school of dentistry and Cardiff University. He is also dean of the dental faculty and vice-president of the Royal College of Physicians and Surgeons of Glasgow. With more than 200 scientific articles published and six medical textbooks co-authored, it is no surprise that Prof Lewis’ lecture was packed with delegates eager to hear how they can help their patients suffering from dry mouth.

The lecture began with Prof Lewis setting the scene with his alternative title Unlocking the secrets of saliva. He explained that his aim was to inform delegates: Where saliva comes from; Components; What it does; Effects of reduced salivary production; Causes of xerostomia; What can be done to help patients.

Where saliva comes from
Prof Lewis explained that there are three major paired glands which produce 95 per cent of saliva: the parotid (60 per cent), the submandibular (30 per cent) and the sublingual (five per cent). The rest is produced by more than 600 minor or accessory glands mainly found in the lips, cheek and palate.

The real interest for me is how saliva is made up. Having always thought of saliva as a single secretion, I was surprised to discover that it is a mix of two secretions; serous and mucous. The serous saliva is mainly watery and is primarily produced by the parotid glands; the other glands are responsible for the production of the more viscous mucous saliva. The content and consistency of a patient’s saliva is then dependent on flow rate; this is where the causes and effects of reduced salivary flow come into their own.

Cause and Effect
Prof Lewis detailed how salivary flow rate is neurally controlled – it is excited by taste and mechanical stimuli but inhibited by feelings such as anxiety. With its importance in functions such lubrication for speech, a buffer against acid attack, cleansing antimicrobial actions etc, a reduced flow rate soon manifests as a problem. Symptoms often mentioned by patients include a lack of taste, dry mouth, mouth and tooth infections, difficulty in speech, increased dental caries and xerostomia.

The need for a solution
Prof Lewis explained that one of the solutions is to prevent acid attack before it starts. This can be done in the home by reducing acidogenic plaque and in the surgery by providing frequent fluoride applications. For patients with xerostomia, a variety of products can be used to help stimulate flow or replace it. There are a number of products on the market that help to keep the mouth feeling fresh and moist, which are well accepted by patients. One of the best of these is Pronamel.

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References:
of taste; difficulty in swallowing; increased effort when speaking. As clinicians, immediate signs manifesting in the mouth include no saliva pooling in the mouth; frothy or cloudy saliva; sticky/erythematous mucosa; atrophic tongue dorsum; candidosis; angular cheilitis. One big marker for xerostomia, explained Prof Lewis, is the occurrence of cervical caries and failed restorations.

Xerostomia is often a complaint from patients with underlying causes, including:

- Drugs: many prescribed medications have dry mouth as a side effect. Drug categories including tricyclic antidepressants, antihistamines, diuretics and sedatives are all associated with causing dry mouth.
- Sjögren’s Syndrome: This immunological condition is characterised by the destruction of glandular acini, part of the salivary production process.

Radiotherapy: Salivary tissue is extremely sensitive to radiation, so patients receiving radiotherapy for malignant disease can find their salivary flow compromised.

Undiagnosed or poorly controlled diabetes: dry mouth is an often forgotten marker for diabetes, caused by increased blood sugar levels resulting in fluid loss.

Dehydration: reduction in general fluid level will naturally decrease salivary flow – after all, saliva is made of 99.4 per cent water!

Absence of salivary glands: this has been reported but is an extremely rare condition.

Investigating xerostomia

Moving from the theoretical, Prof Lewis then discussed what clinicians can do for patients presenting with dry mouth in their surgeries. He stressed the importance of investigation into the causes of dry mouth for that patient, to ensure any underlying condition has been identified or particular medication use is explored.

Means of investigation can include clinical exam (discussion with patient, appearance of patient (ie face, hands, gait), appearance of saliva, ‘mirror sticks test’ (a dental mirror will often stick to the buccal mucosa if there is reduced saliva) etc); salivary flow rate tests; haematological tests (especially important for diabetes diagnosis); sialography (the infusion of a radio-opaque contrast fluid into the gland which will reveal any defects in a radiograph); labial gland biopsy (very effective in diagnosing Sjögren’s Syndrome).

Managing xerostomia

Once the cause of the condition has been indentified it can then focus the minds of both clinician and patient on how to manage it, commented Prof Lewis. For example, it may be possible to suggest a change in medication to one that does not list dry mouth as a side effect; or a diagnosis of diabetes should see improved glycaemic control on behalf of the patient and a resolution of dry mouth symptoms.

There are many salivary substitutes which can be recommended, many of which are listed in the British National Formulary and so can be prescribed. Prof Lewis described a few of them, plus the benefits and disadvantages of using them. The most graphic disadvantage was for Salinum, which was described as ‘like licking a cricket bat!’ Oral care systems such as the Biotène range has proved very popular with patients due to its formulation and ease of use.

Prof Lewis also discussed other helpful measures such as chewing sugar-free gum, use of systemic salivary stimulants, frequent sips of water to maintain hydration levels, oral health regime including the use of a daily fluoride rinse and twice daily brushes and the limitation of the intake of alcohol and coffee. One anecdotal measure he mentioned was a daily one gram dose of evening primrose.

Conclusion

Professor Lewis’ easy delivery style and obvious enthusiasm for the subject matter made this lecture a resounding success for me. It was both informative and practical, allowing delegates to really think about the diagnosis and management of xerostomia in patients as well as highlighting once more how the oral cavity can be a window into the overall health of the human body.

Also congratulations to the British Society of Dental Hygiene and Therapy, who in association with the International Federation of Dental Hygienists put on a fantastic conference. Every delegate I spoke to over the two days I attended were full of praise for both the scientific programme and the social programme, and are already looking forward to the next ISDH in two year’s time in Cape Town, South Africa.

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