View of the Mouth – Oral Cancer

**Dental Tribune** talks to Professor Stephen Porter about the dangers of oral cancer and an innovative diagnostic technique, with the potential for speedy diagnosis and referral for patients

In the UK, about 3,500 patients annually are diagnosed with oral cancer, of which 900 are fatalities. Elsewhere in Europe there has been a six-fold rise over the past 40 years among young adults with the most frequent tumour of the mouth – oral squamous cell carcinoma (OSCC) with numbers predicted to rise.

Prof Stephen Porter confirmed that although oral cancer had a fairly low public profile, it was increasingly common. He said: “OSCC is possibly the eighth most common cancer worldwide and thus more common than diseases such as cervical malignancy.”

Researchers from the UCL Eastman Dental Institute and the University of Surrey are conducting a study over the next year on the potential efficacy of dielectrophoresis, a non-invasive technique of diagnosing oral cancer. Prof Porter explained: “If successful, this new technique would provide a simple and quick means for a dentist or doctor to determine whether a lesion in the mouth was potentially cancerous.

“It could lead to a chairside test for potentially malignant disease, which would give an immediate result and lead to early referral.”

The technique’s methodology uses a brush placed over a suspicious oral lesion to collect cells, which are then examined in the laboratory to detect any changes in electro-physiological properties.

Prof Porter said studies were investigating ways of encouraging people to change behaviour that increases the risk of oral cancer. He said although the main risk groups are those who smoke and/or drink alcohol, there is increasing evidence that sexual lifestyles, but he said: “Lifestyle changes do not cause an immediate reduction in the risk of oral cancer. It may take 10-15 years for the influence of tobacco upon the mouth to diminish. So we would hope that the technique will detect the changes that precede the actual development of mouth cancer.”

In some cases it is hoped that the technique could prevent an oral lesion from developing further. Prof Porter explained: “If the lesion is potentially malignant then it could be removed and the patient regularly reviewed. But there is a 50 per cent risk that it could return. However, early detection and treatment would avoid the possibility of cancer developing. The exact influence of cessation of tobacco and/or alcohol upon the risk of future disease is unclear, but certainly if the patient continues with these activities, the risk of future disease is unlikely to fall.”

A final word of warning: “Even if the lesion is cancerous and is treated appropriately, there still remains a one in eight chance of the patient developing further potentially malignant or malignant disease.”

Although diagnosis of mouth cancer is generally based upon clinical detection by a dentist or doctor confirmed by biopsy of the lesion, Prof Porter said many patients presented with late and therefore extensive oral disease, so overall five-year survival rates could be as little as 50 per cent.

He added: “In addition, patients have a one in five chance of developing new tumours in the mouth or upper airways, hence lifelong clinical review is important.”

Prof Porter sees dielectrophoresis as a potential warning to at-risk groups to change their lifestyles, and he said: “Lifestyle changes do not cause an immediate reduction in the risk of oral cancer. It may take 10-15 years for the influence of tobacco upon the mouth to diminish. So we would hope that the technique will detect the changes that precede the actual development of mouth cancer.”

He commented that poor oral hygiene is also a possible contributory factor, although the precise impact of alcohol-containing mouthwashes remains uncertain. Additional risk factors include a diet with a lack of fresh fruit and vegetables.

He added: “Other less common factors which may predispose to mouth cancer include immunologically-mediated disease such as oral lichen planus and rare genetic disorders, for example, Fanconi’s anaemia. A small number of people do however develop mouth cancer without having any of the aforementioned risk factors. This suggests that subtle, perhaps genetically-driven, factors may influence the development of this tumour.”

Prof Porter said it is vital to run any oral cancer screening programme hand-in-hand with an education programme on risk factors. But he warned: “Any education programme must be targeted at the groups at greatest risk of mouth cancer. The difficulty is that many who are in a risk group are also economically deprived and do not readily access health care, perhaps especially dentistry.”

“Thus, this group may well miss out on programmes centred around health care providers. It would therefore seem better to screen people in more public locations such as supermarkets.

“Education is difficult. Already cigarette packets have warnings about oral cancer risks, and in Scotland there was a national campaign on mouth cancer. Any educational package must be simple and target those at greatest risk. It would seem sensible and cost effective to piggyback education on oral cancer into programmes allied to smoking, drinking and sexual lifestyle.”
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Lingual orthodontics on Euro stage

This group of specialists has evolved from a select study club to a respected group, which is hosting a major European event in London next year.

BLOS chairman, Rob Slater, is an orthodontic specialist as well as a member of the organising committee for the European Society for Lingual Orthodontics meeting in July 2010. He regards lingual orthodontics as one of the most important dental developments of the century.

He said: “We had Edgewise at the start of the 20th century, Begg in the 1920s, Straightwire in the 1970s, aligner systems in the 1990s and new lingual today.”

He added that more and more general dental practitioners are recommending orthodontic treatment to patients who needed gaps closed or opened, prior to a course of restorative treatment.

He added: “Dentists have re-framed from suggesting orthodontics in the past because they knew their patients wouldn’t tolerate looking like a teenager. But when the appliances can be fitted behind the teeth, it’s a different story. BLOS members are already seeing more referrals from dentist colleagues.”

He said the newest systems on the market had overcome previous mechanical challenges.

“Overjet reduction is easier with lingual and overbite reduction can also be more effectively achieved.”

BLOS members have made links with orthodontists in Europe and further afield, which has led to joint meetings with the Italian counterpart to BLOS - Associazione Italiana Ortodonzia Linguale.

Mr Slater hopes that the transformation of BLOS from niche to national will be complete in 2010 and that lingual orthodontics will become established as part of the armamentarium of every ambitious orthodontic specialist.

For more information about BLOS, log onto: www.blos.co.uk or to find out more about the European meeting, go to www.esloscongress.com.

Compliance with decontamination rules

Dentists in Scotland must comply with new Scottish Government guidance on dental decontamination and ensure their validation is up to scratch, warns the UK-wide MDDUS.

All primary dental care practices received updated guidance from the Chief Dental Officer for Scotland this month. These included information about the timescales for compliance with decontamination requirements, as well as other actions which need to be taken by December 2009.

Aubrey Craig, head of the dental division of the MDDUS, said: “It is welcome news that the other home countries are developing processes for decontamination in dental surgeries. Scotland has been the lead on this for a number of years.

“It was reassuring to see that Dr Margie Taylor, upon taking up her post as chief dental officer for Scotland, wished to gather information prior to formulating the guidance.”

But he continued with a word of warning: “However, there is no way out for practitioners. They will have to comply with the guidance and ensure that their Health Board is fully aware of their plans.”

The situation in England is different in that all dental practices will have to meet essential requirements of the Department of Health’s guidance on dental decontamination by April 2010 - twelve months after the publication of the HTM 01-05 guidelines. To assist practice owners, model protocols and audit tools have been included with the implementation of HTM 01-05.

It is anticipated that the guidelines will be adopted in Wales as well as Northern Ireland, but amendments will be applied in the province.

MDDUS advises that HTM 01-05 does not apply in Scotland as dentists there are in receipt of guidance documents from various organisations that provide advice on such matters.

Age equality consultation launched

To prepare health and social care services for new anti-age discrimination laws, the Government is calling for people’s views on the likely implications.

The consultation asks for comments on the recommendations of a review into the implications for health and social care of new age requirements in the Equality Bill.

The Bill will ban age discrimination against adults in public services. This has particular implications for health and social care because age can be a factor in decisions about some treatments and services. The Health Secretary, Andy Burnham, has already signalled his support for implementing the new laws in 2012 when other sectors will do the same.

Sir Ian Carruthers and Jan Ormistonroyd were asked by the Government to lead a review of equality in the NHS and social care. They found that:

- health and social care services should implement the new requirements in the same time as other sectors - 2012;
- no areas within health and social care should have wholesale exemption from the legislation;
- where possible, age as a criterion for assessing care provision, should be replaced by more pertinent and individualised evidence;
- local authorities review their assessment procedures; and
- all professional regulatory or exempt from the legislation;
- all professional regulatory or local authorities review their assessment procedures; and
- all professional regulatory or in decisions about some treatment and services.

The consultation will close on 15th February 2010. Responses can be made at http://www.dh.gov.uk/en/Consultations/Liveconsultations/DH_108887
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Regular Brushing Could Keep Thinking Sharp

Maintaining good oral health could help keep thinking skills intact in the ageing population, according to an American study.

Researchers from Columbia College of Physicians and Surgeons in New York claim that gum disease can influence the functioning of the brain through causing inflammation in the body, which they claim can be a risk factor in the loss of good mental functioning.

The study, which was based on adults aged 60 and above, found that those with serious gum disease were three times more likely to have trouble recalling a three-word sequence after a specified period of time.

The research project also found that adults with the highest levels of the pathogen which causes gum disease, were two times more likely to fail three-digit reverse subtraction tests. They were also nearly three times more likely to struggle with verbal memory tests and twice as likely to fail on verbal recall and subtraction tests.

The study, which was reported in the Journal of Neurology, Neurosurgery, and Psychiatry, was based on more than 2,350 men and women who were tested for periodontitis and completed numerous thinking skills tests as part of a national survey.

Dental Pessimism

A New Zealand study has revealed that people with a negative view of the world could be more likely to suffer from poor oral health, including decayed or missing teeth.

The findings came after the anxiety levels of 1,037 people were compared with their dental records.

Experts at the University of Otago, discovered that a quarter of participants could be classed as having anxious personalities, which included a fear of the dentist.

“These people tended to be the glass-half-empty personality type”

Some were so scared that they would avoid the dentist altogether until the problem became so serious that treatment could no longer be avoided.

As a result, people who developed “dental anxiety” tended to have more tooth decay than those who were not concerned or worried about treatment.

Statistics showed that, compared to the average population, people who were very nervous about visiting a dentist, had double the average number of rotten or missing teeth and fillings by the time they were 52.

Professor Murray Thomson, who led the study, said: “These people tended to be the glass-half-empty personality type - people who, as a rule, would be anxious about other things, such as heights.

“They then require more unpleasant treatment options such as lancing an abscess, root canal treatment or a tooth extraction. This reinforces their dental anxiety and makes it even less likely that they will attend the dentist next time they have a problem.”

He said the study, published in the Journal of Community Dentistry and Oral Epidemiology, showed that if people avoided dental care, then in the long run they would be worse off, not only dentally but also in terms of their appearance, social interactions and quality of life.