Oral health in Hong Kong remains poor

Nine out of ten people in the SAR suffer from oral diseases according to new report

- Despite preventative measures such as full water fluoridation and school-based dental care services, the oral health status of most people in Hong Kong still leaves much to be desired. According to a report by researchers from the University of Hong Kong’s Faculty of Dentistry, published in the latest edition of The Surgeon, dental diseases affect a significant number of people living in China’s special administrative region.

Among the paper’s findings, caries prevalence was high in all age groups, particularly in the adult population, where eight to nine people out of ten have caries lesions. Children seem to be less affected by tooth decay, with prevalence being lowest in 12-year-old schoolchildren. About 50 per cent of preschoolers, however, have caries, which is largely left untreated, the report states. A significant number of youngsters have periodontal disease, with only 6 per cent reported to have healthy gums. A good periodontal status also remains a rare exception among adults and the elderly, with the overwhelming majority experiencing regular bleeding and other symptoms of the disease.

Moreover, the report indicates that oral health is not considered a priority by many Hong Kong people. Awareness of preventative measures other than toothbrushing is very low, and most people stop flossing and do not have their teeth professionally cleaned, the report states. A significant number of youngsters have periodontal disease, with only 6 per cent reported to have healthy gums. A good periodontal status also remains a rare exception among adults and the elderly, with the overwhelming majority experiencing regular bleeding and other symptoms of the disease.

Dental care in Hong Kong is primarily performed by private practitioners, with only one dentist per 4,000 people. Out of 2,200 registered dentists, slightly over 300 were in public service.

While Hong Kong has been providing basic services performed by dental therapists to children under the age of 14 through its School Dental Care Service since the 1980s, costs for more advanced treatment have to be paid privately. A three-year pilot project however is currently underway to extend primary dental care services to the elderly.
“Raising the standards of dental knowledge and care”

An interview with HKIDEAS chairman Dr Nelson C. W. Wong

The last HKIDEAS in 2011 attracted more than 2,000 visitors. What are your expectations for this year?

Owing to the exceptional scientific programme, we expect participation to grow by 20 per cent. This part of the show received very positive feedback from attendees in 2010 and 2011.

One of the greatest challenges is scheduling the event strategically to avoid it overlapping with the holiday season, students’ examination periods or other major dental congresses in the region. Despite these problems, the next HKIDEAS has already been scheduled for 22 to 24 August 2014.

Along with an expanded exhibition, we will continue to bring exceptional scientific lectures, thereby strengthening HKIDEAS as an annual event for all members of the dental profession that is not to be missed. Recognised names and interesting topics will be key to attracting a wider audience.

Dr Wong, thank you for this interview.
Gingivitis susceptibility and chronic periodontitis susceptibility

Periodontal disease includes two common, distinct inflammatory conditions: plaque-induced gingivitis, a common, reversible condition, and chronic periodontitis, an irreversible condition involving bone loss. Dental bacterial plaque biofilm initiates gingivitis, which invariably precedes periodontitis.

The maintenance and development of these diseases requires the continuous presence of this microbial plaque biofilm. Although ample evidence supports the role of genetic and host-response-related variation in susceptibility to periodontitis, there are limited studies on potential host-dependent variation in susceptibility to gingivitis. Even in the initial reports of experimental gingivitis there appeared evidence suggesting that the onset and severity of the gingival inflammatory response to plaque accumulation differs significantly among individuals. However, such differences were then attributed to differences in plaque accumulation rates (quantitative plaque differences) and/or differences in the plaque species present (qualitative plaque differences, Löe et al. 1995; Thylmann et al. 1996).

More recently, reports have shown that significant differences in gingival inflammatory response occur even with quantitatively and/or qualitatively identical plaque accumulation (Lie et al. 1995; Traboulsi et al. 2004). These studies show that the level of gingival inflammation in response to plaque may be an individual trait (Tanaka & Traboulsi 2004). Individual gingivitis susceptibility appears dependent on host-related factors, possibly genetic in origin (Sapoka et al. 2005; Shapiro et al. 2005).

Subjects with a history of aggressive periodontitis demonstrate a significantly higher gingival inflammatory response to de novo plaque accumulation compared with periodontally healthy subjects matched for extent and rate of supragingival plaque accumulation (Trombelli et al. 2006).

At the present time, there are no reliable means to predict susceptibility to chronic periodontitis. The possibility of such prediction would permit the cost-effective application of public health resources and clinical preventive measures. Since susceptibility to gingivitis could be ascertained at any age in a very short period without any permanent damage, the possibility of predicting periodontitis susceptibility based on gingivitis susceptibility would be an advantage in many respects. In this context, it is possible that identification of factors related to increased susceptibility to gingivitis may help identify at an early age subjects at risk of chronic periodontitis. Were this the case, it would permit the targeted application of public health resources and practice-based preventive measures in a cost-effective manner.

On 11 August 2013, Prof. Kinane will be presenting a paper titled “Susceptibility to periodontitis during the morning session chaired by Hong Kong dentist Dr Adrian Hui as part of the 2013 HKIDEAS scientific programme.

Prof. Denis F. Kinane is Dean of the University of Pennsylvania’s School of Dental Medicine in Philadelphia in the USA. He can be contacted at denis@exchange.upenn.edu.

Understanding susceptibility to periodontal disease

By Prof. Denis F. Kinane, USA

As with many conditions and infectious diseases, not everyone is equally susceptible. Were this the case, we would not have wiped out in the Middle Ages by the black plague, or, later by severe acute respiratory syndrome or by an influenza virus epidemic.

Periodontal disease can be distinguished according to susceptibility and variation in the following categories: chronic periodontitis, gingivitis, necrotising periodontitis, and aggressive forms of periodontitis. Variation in susceptibility depends on risk factors, environmental factors and genetic predisposition. Understanding clinical variation is important, as it determines the underlying risks, genetics and host responses. These comprise the innate inflammatory and adaptive immune systems, whose role is to provide the appropriate response to the invading microorganisms.

In some cases, there may be little or no response when the host encounters commensal organisms. In other cases, there is a gradual response, depending greatly on the host’s over-reaction to the pathogenic nature of the microbial insult, which is the main source of variation in host responses that govern individual susceptibility. In some individuals and with some bacteria, as this will be an innate-only response. Others will need to invoke the inflammatory response and yet others will require the adaptive immune response, be it cellular or humoral, of both, to reduce or remove the challenge from the microbes.

Of course, these responses would be somewhat easier to predict with a single-pathogen challenge and become infinitely more complex as the biofilm increases in complexity. Oral infections, gingival inflammation in particular, originates from not just one but many micro-organisms. This polymicrobial infection may result in chronic inflammation, which may lead to tissue destruction, as evident in chronic periodontitis.

This article will discuss the host response considering epithelial cells exposed to biofilm, genetics, risk factors such as smoking and clinical susceptibility to periodontitis.

...onset and severity of the gingival inflammatory response to plaque accumulation differs significantly among individuals.”
Complications with implants require structured treatment planning

By Dr Nikos Mattheos, Hong Kong

Replacement of missing teeth with dental implants is one of the most rapidly increasing treatment modalities for edentulism. The advancement in our understanding of tissue healing, as well as continuous improvement in technology, has extended the indication for dental implants to a wide portion of the population, offering long-term successful and highly predictable treatment outcomes.

Despite the achievements of the last decades, however, the increasing application of dental implants has resulted in a significant increase in the number and complexity of complications we encounter in dental practice. These can pose a significant challenge to even experienced clinicians and often come with major consequences for the patient. The role of regular maintenance is therefore crucial in order to prevent or identify potential complications at an early stage.

Typically, complications are classified as biological (mainly involving inflammation of the peri-implant tissue) and technical (involving the various implant or prosthetic components). These two types of complications have been traditionally examined as separate and non-related pathologies. The truth however in practice might be very different. At present, there is emerging evidence that shows a close interrelation between biological and technical factors in the aetiology of complications. Very often, a biological problem will be the underlying factor for a technical failure and in other instances a technical deficiency might lead to a biological complication.

Recent studies have identified two important characteristics of complications with dental implants. First, complications appear to be clustered. That means that only a few of the patients account for the majority of the recorded complications. In practical terms, if a patient presents with one complication, either technical or biological, then he or she is at higher risk of having more complications in the future. Second, patients diagnosed with a complication of a technical nature are three times more likely to develop biological complications too. Although this relation is poorly understood, it indicates that there is a much closer interrelation between biology and technology than what can currently be understood. This becomes even more evident as we see a significant number of failures due to the increasing trend of using compromised low-cost prosthetic components to reduce treatment costs.

There is an urgent need for a structured treatment planning approach that integrates the use of dental implants into an individualized, evidence-based comprehensive care plan for each patient. Furthermore, comprehensive risk assessment and maintenance protocols are required that will only maintain the health of the peri-implant tissue, but also ensure the longevity of the mechanical parts.

Currently, implant dentistry stands at a crossroads. Careful, stepwise research and development over decades has provided us with the tools and techniques to offer predictable and reliable reconstructions to our patients. At the same time, the increase in application and pressure from market factors should not allow any compromise in the skills of the operator, patient selection, the techniques, devices or components that are utilized. An increase in complications, especially when exaggerated by the media, can jeopardize all achievements and have a negative impact not only on implant dentistry as a popular treatment modality, but also on the profession and ultimately the quality of care offered to patients.

On 11 August 2013, Dr Mattheos will be presenting a paper titled “Strategies for prevention and management of complications with dental implants” during the late morning session chaired by periodontology expert Prof. Lijian Jin as part of the 2013 HKIDEAS scientific programme.

Dr Nikos Mattheos is an associate professor at the University of Hong Kong’s Faculty of Dentistry. He can be contacted at nikos@mattheos.net.

Successful treatment depends on good patient–dentist relationship

By Prof. Edward Lo & Dr Ken Zhang, Hong Kong & PR China

Dentistry has undergone considerable progress over the last 50 years. Today’s professionals are increasingly becoming service providers, and the need to understand patients better and for the latest technology for use during chairside treatment is ever growing.

In order to meet these requirements, dentists are increasingly incorporating not only modern dental techniques but also practice management skills in daily practice. They also seek to improve service constantly to enhance patient satisfaction. It is gratifying that dental exhibitions generally showcase modern dental products and offer continuing education in both clinical skills and dental practice enhancement.

For maintaining good oral health, proper self-care and oral hygiene are more important than ever. Owing to an increase in longevity and retention of more teeth in the mouth, people will need to spend more time taking good care of their natural teeth. It is generally acknowledged that most oral diseases are related to lifestyle, such as dietary practice, and other oral health-related factors. An epidemiological survey in Hong Kong recently found that although over 90 per cent of adults brush their teeth on a daily basis the oral hygiene of most of them is unsatisfactory. As proven by the presence of calculus and obvious signs of gingival inflammation, only one in four adults visit a dentist regularly for a check-up. Therefore, many people in Hong Kong have dental restorations.

Successful treatment depends on a good relationship between the patient and dentist. Patients with good oral hygiene help not only to achieve a good treatment outcome but also to improve the longevity of the restorations, and we have already established the reputation of a dental business. A better understanding of the latest dental technology and improved knowledge about what products to recommend to patients are in the best interests of both dentists and patients. Dental care products, such as toothpaste, use newly-developed technology and can deliver multiple benefits in different areas; for example, they can address common oral health challenges and help patients maintain good oral health between dental visits.

On 11 August, 2013, Prof. Lo and Dr Zhang will be presenting a paper titled “Improving dental care through patient motivation and participation” during the morning session chaired by Prof. Stephen Wei as part of the 2013 HKIDEAS scientific programme.

Prof. Edward Lo is Clinical Professor in Dental Public Health at the University of Hong Kong’s Faculty of Dentistry. He can be contacted at ebole@hksrdc.hku.hk.

Dr Ken Zhang is the Director of the Procter & Gamble Great Research Institute in Beijing, China.
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