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CASE ACCEPTANCE

The introduction of a well-trained Treatment Coordinator can change your entire approach to new patient care, as well as increase profitability.

► Page 6



MALPRACTICE

Dr Andy Wolff about the steady increase in litigation in dentistry and simple measures that can help prevent many incidents in the first place.

► Page 8



ANTERIOR RESTORATIONS

With modern materials, they can be efficiently layered to produce highly aesthetic results that are virtually indiscernible from the natural tooth structure.

► Page 14

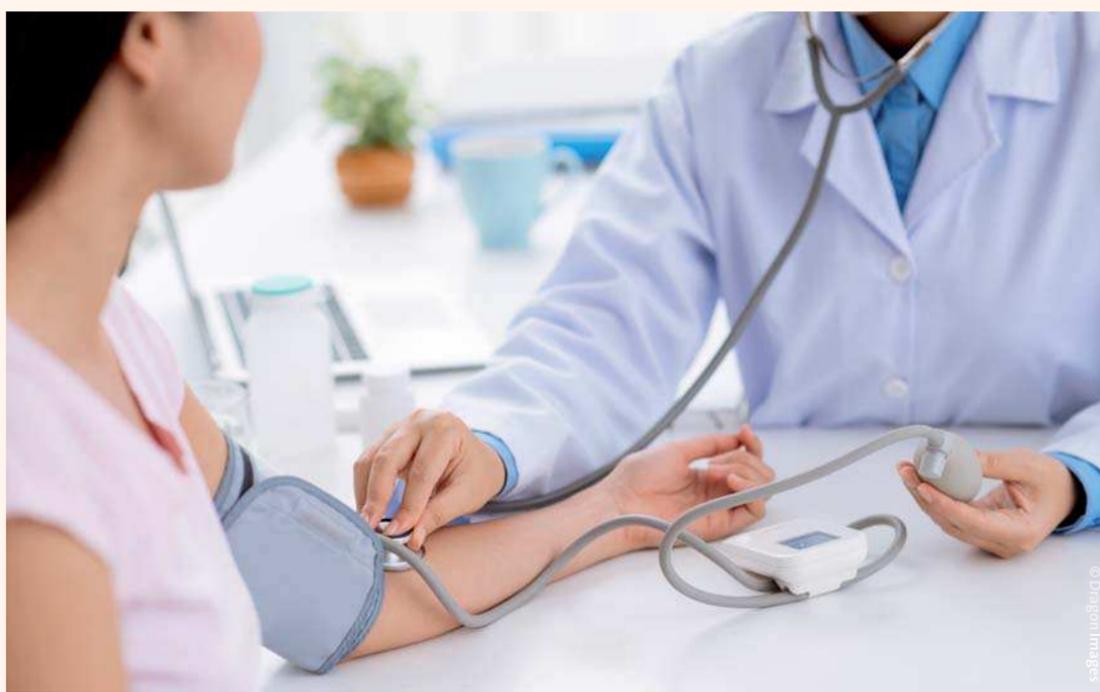
Hypertension related to poor oral hygiene

By DTI

SEOUL, South Korea: High blood pressure, or hypertension, is a common but dangerous condition. Untreated, it can lead to stroke, damage to the heart and arteries, and kidney defects. A recent South Korean study has suggested that the likelihood of developing hypertension may be linked to poor oral hygiene habits.

In the study, the researchers analysed clinical data from 19,560 participants, collected between 2008 and 2010 for the Korea National Health and Nutrition Examination Survey. High blood pressure was determined by use of antihypertensive medication or an average blood pressure greater than 140/90 mmHg. According to these criteria, hypertension was diagnosed in 5,921 persons.

In addition, oral hygiene habits were evaluated by daily frequency of toothbrushing, as well as the use of oral health products, such as dental floss, mouthwash, inter-



Hypertension may be related to oral health habits, the study suggests.

dental brushes and electric toothbrushes.

The analyses showed that frequent toothbrushing could be as-

sociated with a decreased prevalence of hypertension in individuals with and without periodontitis. Generally, participants with poor oral hygiene habits were found to

have higher hypertension frequency.

According to the researchers, this suggests that periodontitis

and hypertension may be linked in that inflammation may lead to blood pressure elevation, which would allow for the conclusion that oral hygiene may be considered an independent risk factor for hypertension.

Hence, maintaining good oral health habits may prevent and control the condition.

"Although this subject may require further study, the association between hypertension and periodontitis is reminiscent of the link periodontal disease shares with other systemic conditions, including diabetes and heart disease," remarked Dr Joan Otomo-Corgel, President of the American Academy of Periodontology, on the research findings.

The study, titled "Associations among oral hygiene behavior and hypertension prevalence and control", was published in the July issue of the *Journal of Periodontology*.

Potential biomarkers for dental caries found

By DTI

ODENSE, Denmark/VALENCIA, Spain: In order to determine potential biomarkers for dental caries, an international team of researchers has taken a closer look at the human oral metaproteome, the most prevalent proteins found in oral biofilm. Their findings might enable scientists to develop a diagnostic caries test.

The researchers from the Department of Biochemistry and Molecular Biology at the University of Southern Denmark in Odense and from the FISABIO Foundation in Valencia aimed to determine a minimum set of proteins that allow for discrimination between healthy and caries-affected dental plaque samples. They identified

7,771 bacterial and 853 human proteins in 17 individuals.

The study's metaproteomic analyses of the oral biofilm provide the first protein repertoire of human dental plaque, the researchers stated. Moreover, by using different mass spectrometry approaches, they were subsequently able to quantify individual peptides in healthy and caries-bearing individuals.

Their findings showed that healthy individuals appeared to have significantly higher amounts of enzymes associated with a high acid tolerance.

Other proteins found to be at significantly higher levels in caries-free individuals were involved in

exopolysaccharide synthesis, iron metabolism and immune response.

By interpreting the potential biomarkers collectively, the scientists were able to determine the oral health status of the individuals studied with an estimated specificity of over 96 per cent.

Although validation of the findings in larger sample size studies is necessary, the findings could be of use for developing future caries risk screenings, the researchers concluded.

The results of the study were published online ahead of print on 14 August in the *PROTEOMICS* journal in an article titled "The human oral metaproteome reveals potential biomarkers for caries disease".



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Coconut oil pulling reduces gingivitis

By DTI

KANNUR, India: A recent study has shown that oil pulling using coconut oil could be an effective method to reduce plaque formation and plaque-induced gingivitis. Coconut oil is an easily usable and safe substance with minimal side-effects and could thus become an alternative to conventional

oral antimicrobial agents such as chlorhexidine, the findings suggested.

The pilot study included 60 adolescents aged 16–18 with plaque-induced gingivitis, half of whom performed coconut oil pulling in addition to their oral hygiene routine over the course of 30 days, while the remainder served as a control group. The researchers

observed a steady reduction in both plaque and gingival index values already after one week of therapy. In addition, they noted a 50 per cent decrease in these values in four weeks, which is comparable to the decrease produced by chlorhexidine.

A number of studies have shown that oil pulling or swishing reduces

gingivitis. In 2007, for example, oil pulling with sunflower oil was found to reduce plaque and gingival indices after 45 days. However, the current study is the first to investigate the benefits of coconut oil in this respect.

To date, the mechanism by which oil pulling works is not fully understood. According to the researchers, its plaque-decreasing effect could be attributed to mechanical shear forces that can reduce adhesion of plaque. Another possible explanation is the composition of coconut oil. It contains 92 per cent saturated acids, approximately 50 per cent of which is lauric acid, which has proven anti-inflammatory and antimicrobial effects.

Study recommends disinfecting toothbrushes regularly

By DTI

DAVANGERE, India: Toothbrushes are prone to contamination by microorganisms originating not only from the oral cavity but also from the surroundings in which they are stored. Indian researchers have now investigated how different dental disinfectants affect bacterial colonisation.

In order to investigate the impact of disinfectants such as chlorhexidine gluconate, sodium hypochlorite and water on the presence of streptococcal microorganisms, the toothbrushes of 21 children aged 5–12 were evaluated after five consecutive days of twice daily toothbrushing.

Following the five-day trial, the brushes were incubated in Robertson's

cooked-meat broth for four to five hours before immersing them in the different disinfectants in groups of seven toothbrushes. Group 1 was immersed in 0.2% chlorhexidine, Group 2 in 1% sodium hypochlorite, and Group 3 in water only. After 24 hours, all of the brushes were placed in Robertson's cooked-meat broth again and then cultured.

The final analyses showed that treatment with chlorhexidine resulted in a 100 per cent reduction of streptococci colonies, while sodium hypochlorite reduced the microorganisms by 71 per cent. In contrast, the

toothbrushes that were immersed in water only showed a 14 per cent reduction in streptococci colonies.

The results indicate that both chlorhexidine and sodium hypochlorite are effective disinfecting agents. According to the researchers, the significant increase in contamination of the toothbrushes in Group 3 suggests that rinsing one's toothbrush only in water and air-drying could lead to toothbrush contamination.

In light of the findings, the researchers concluded that it is essential

for every individual to disinfect his or her brush at regular intervals, hence preventing reinfection and helping maintain good oral hygiene and general well-being. Since the present approach did not consider all the varieties of microorganisms present in the oral cavity, future research should focus on the survival of other microorganisms, such as other bacteria, fungi and viruses, the scientists stressed. Moreover, they noted that other antimicrobial solutions, such as products of the neem plant or salt, might be economical, non-toxic and easy-to-use alternatives worth testing for their disinfectant properties.

Contaminated toothbrushes are associated with various oral health problems, including dental caries, gingivitis and stomatitis. Health organisations, such as the American Dental Association, recommend changing toothbrushes every two to three months.

Asia-Pacific leads market growth

According to a recently published report by market research firm MarketsandMarkets, the global orthodontic supplies market is expected to reach about US\$3.9 billion by 2020, representing a compound annual growth rate of 6.9 per cent over the next five years. The Asia-Pacific region is expected to be the fastest growing market during the forecast period owing to constant health care expenditure and increasing awareness about orthodontic procedures, among other factors.

Overall, the growth in the orthodontic supplies market is primarily stimulated by the growing number of patients with malocclusion, jaw diseases and tooth loss; technological advances; the increasing popularity of orthodontic treatment among adolescents and adults; and rising disposable incomes in developing countries, such as India, China and Brazil. As reported by MarketsandMarkets, North America is estimated to hold the largest share of the orthodontic supplies market as of 2015, followed by Europe.

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