Scientists discover oral cancer biomarkers associated with patient survival

By DTI

DUNEDIN, New Zealand/KOLKATA, India: In a recent study, researchers have discovered epigenetic markers that are markedly different in oral cancer tissue compared with the adjacent healthy tissue in patients. This study is one of the first to identify epigenetic markers in oral cancer. Identifying these markers could help detect early signs of cancer and significantly improve patient survival rates.

The study was conducted by researchers from the University of Otago in New Zealand and the Indian Statistical Institute (ISI) in Kolkata. The research team recruited 16 oral cancer patients in India who either smoked or chewed tobacco or had mixed habits, and took samples of their tumours and adjacent tissue. After isolating the DNA in the samples, the researchers discovered regions with altered epigenetic profiles in tumour cells compared with adjacent cells.

Epigenetics can alter gene expression in cancer cells without changes to the DNA sequence and can cause tumour progression.

“This phenomenon is relatively new and understudied, particularly in oral cancer. This study is one of the first to identify epigenetic markers in oral cancer, using cutting-edge approaches,” said co-author Dr Aniruddha Chatterjee, Senior Research Fellow and Rutherford Discovery Fellow in the Department of Pathology at the University of Otago. The findings showed that the arrangement of a certain epigenetic mechanism, called DNA methylation, might be responsible for dictating gene expression and the spread of abnormal cells. “By validating in a larger cancer cohort, we have shown that a subset of these biomarkers is significantly associated with poor prognosis of patients,” Chatterjee said.

The age-adjusted incidence of oral cancer in the world is estimated at four cases per 100,000 people, according to the World Health Organization. This oral disease is more common in men and in older people, and varies considerably by socio-economic condition. According to the 2019 report of “India Against Cancer”, of the 300,000 cases of tobacco-associated oral cancer detected globally, 86 per cent are from India. Additionally, late diagnosis and poor prognosis are key problems associated with the high mortality rate of this cancer in developing countries. The research group was surprised to find such broad differences in the oral cancer tissue compared with adjacent healthy tissue in the same patients. “We were also surprised to see that small molecules, called microRNA, were methylated or demethylated in the tumours from smokers or chewers or mixed habits, suggesting that therapeutic intervention might be different in patients depending on the way the tobacco was abused,” said lead author Dr Roshni Roy, professor in the Department of Pathology at the University of Otago.

Green light for XIVIA Xylitol dental health claims

By DTI

DENTAL TRIBUNE

CHEONGJU, South Korea: South Korea’s Ministry of Food and Drug Safety has issued a re-approval of the health claim that consumers from 3 to 80 years old of the sweetener XIVIA Xylitol have a reduced risk of dental caries. The manufacturer, DuPont Nutrition & Health, is the first company in the country to receive such re-approval.

In the re-evaluation of the sweetener, the ministry reviewed 146 research reports, including 94 clinical trials, and concluded that XIVIA Xylitol helps reduce the risk of caries at an effective daily dosage adjusted from 10–35 g down to 5–10 g, a similar amount to that of international dental association standards.

In South Korea, functional ingredients that have received a health claim approval undergo a mandatory re-evaluation every ten years. With the latest re-approval, DuPont Nutrition & Health continues to work with manufacturers to create sugar-free products with oral health in mind.

XIVIA Xylitol is claimed to deliver sweetness at 50 per cent of the calorie level of sugar. In addition, it is preferred for its relatively low glycaemic index, which makes it suitable for diabetic and health-conscious consumers. In addition to replacing sugar in chewing gum and other confectionery applications, xylitol is commonly incorporated into oral hygiene products, including toothpaste, mouthwash and teething gels.

DuPont Nutrition & Health is the first company in South Korea to receive re-approval for xylitol health claims. (Photograph: manifesta/Shutterstock)
Scientists draw inspiration from giant panda teeth

By DTI

Scientists from China and the US have discovered that hydration is the key to pandas’ teeth lasting a lifetime. (Photograph: Hung Chung Chih/Shutterstock)

By DTI

New oral appliance could help manage sleep apnoea

Scientists from China and the US have discovered that hydration is the key to pandas’ teeth lasting a lifetime. (Photograph: Hung Chung Chih/Shutterstock)
Brisbane, Australia: An unhealthy diet can be a contributing factor to poor oral and general health, and advertising plays a key role in this regard. Seeking to curb this, the Queensland government has announced a ban on the promotion of unhealthy food and drinks on the advertisement spaces it owns. The move is the first of its kind by an Australian state.

Rethink Sugary Drink, a partnership of 19 leading health and community organisations, including the Australian Dental Association, praised the decision. In a statement, Craig Sinclair, head of the prevention division at Cancer Council Victoria, a partner of Rethink Sugary Drink, placed particular focus on the need to provide supportive, healthy environments for children where the considerable negative impact on sugary drinks can be tackled.

"Whether that is on their walks to school, while waiting for the bus or even when visiting sports and community centres, the presence of sugary drink marketing is overwhelming, making messages about healthier options more difficult to hear," noted Sinclair.

In addition to praising the decision by the Queensland government, Rethink Sugary Drink recommended a public education campaign supported by government that highlights the health impacts of consuming drinks high in sugar. The group also proposed comprehensive mandatory restrictions by state governments on the sale of sugar-sweetened drinks, as well as increased availability of free water in schools, government institutions, children’s sports and places frequented by children. In addition, Rethink Sugary Drink suggested the creation of state and local government policies that reduce the availability of sugary drinks in workplaces, government institutions, healthcare settings, sports and recreation facilities, and other public places.
Lower socio-economic groups in New Zealand cannot afford urgently needed dental procedures

By DTI

AUCKLAND, New Zealand: Socially disadvantaged adults in New Zealand cannot afford dental treatments, even if in great pain, resulting in dangerous do-it-yourself procedures. Consequently, various representatives of the health sector are calling for the government to take action.

In a recent statement, the New Zealand Dental Association (NZDA) called for better government funding to enable low-income adults to access dental care. Even though New Zealand adults have experienced great improvements in oral health since the 1980s, still many patients only visit a dentist when a dental problem occurs, and in particular, low-income adults see the cost as a significant barrier.

"Some truly cannot afford care, and for these groups we must do better, and that involves working with government on a better deal," said Dr Bill O'Connor, President of the NZDA.

Mike Naera, health advocate in Rotorua, commented: "Maori are over-represented in the lower socio-economic demographic and they sacrifice everything so they can live day-to-day. A lot of [them] can’t afford dental work so their options are to remain in pain or extract their teeth themselves. The consequences of paying for dental care would be sacrificing food on the table. The government should be looking for more ways to better subsidise dental work so our families don’t have to keep suffering."

According to Dr Sherry Sembhy, from Rotorua Dentists, self-dentistry is dangerous, as people do not know what they are doing, do not understand the anatomy of their teeth and use unsterile tools, which make the condition only worse. Infections, abscesses, swelling and broken teeth and jaws were some of the possible outcomes of the home procedures which Sembhy said could end up costing even more in repairs.
Smart Solutions for Challenging Restorations

Aesthetics Powered by

For more information, contact your nearest SHOFU Dealer TODAY!
Join the largest educational network in dentistry!

www.DTStudyClub.com
W&H Australasia expands its sales range

From March 2019, W&H Australasia Pty Limited, a subsidiary of the international W&H Group, starts the distribution of the W&H Oral Surgery and Implantology (OSI) product range in Australia. Customers benefit from innovative technologies “Made in Austria” as well as high-quality W&H support and service.

Since June 2018, W&H Australasia Pty Limited has been the exclusive distributor of Male thermal washer disinfectors (TWD) in the dental field. W&H Australasia is now expanding its sales activities in the OSI application area to include W&H surgical devices, W&H surgical straight and contra-angle handpieces, Ostell products as well as accessories and consumables. The merchandise are distributed through a national dealer structure specializing in OSI distribution. The W&H Service Centre is designed, equipped and staffed to meet the high W&H service standards. For support and service, W&H is available by the following service number: 1300 613 988.

“I’m very pleased about the extension of the offer customers benefit from innovative technologies “Made in Austria” as well as high-quality W&H support and service,” says W&H Australasia General Manager Martin Rolfe.

Exciting time ahead

The expansion of the sales portfolio to include W&H OSI products is the first step in 2019. Already in May, a further expansion of the W&H Prophylaxis & Periodontology product range in the Restoration & Prosthetics, as well as in the dental Sterilization & Hygiene application fields continues to be available through A-dec Australia.

Global success with dental technology made in Austria

Renowned for its quality, reliability and excellent service, W&H is one of the top brands in the field of dental technology. By combining qualified employees, a strong focus on Research & Development, close collaboration with users around the world and a modern production system, W&H creates innovative product and service solutions.

For further information please contact:
W&H Australasia Pty Limited
ABN: 33108399800
PO Box 240
Edwardstown SA 5039
T: 1300 613 988
E: support.aus@wh.com

For special care, A-dec Australia is a powerful motor, innovative features and maximum safety.

Researchers find effective way to teach visually impaired children oral hygiene

By DTUK

BELAGAVI, India: An adapted approach is required to train children with visual impairment in oral hygiene and to motivate them to care for their teeth regularly. Researchers at the KLE Academy of Higher Education and Research in Belagavi have tested different approaches to oral hygiene training and compared their effectiveness.

For the study, 90 visually impaired children between the ages of 12 and 15 were selected and randomly assigned to three equal groups. The first group was trained using braille, while the third group received a combination of both two approaches. The researchers tested the dental hygiene of the children by assessing plaque and gingival status at different intervals. The first assessment was after 21 days and the final one took place after nine months. In addition, before and after the training, the children had to fill out questionnaires which recorded their knowledge and practice of oral hygiene and their attitude towards it.

The researchers found that the combined hygiene training in the third group reduced the children’s plaque and gingival scores by 35 and 32 per cent compared with the other two groups. In addition, not only did the children’s practical implementation improve, but their knowledge of the subject and their attitude towards it did too.

The study, titled “Effectiveness of different oral health education interventions in visually impaired school children”, was published in the March 2019 issue of Special Care in Dentistry.