First dental vaccine may help combating chronic periodontitis soon

By DTI

MELBOURNE, Australia: After researching the development of a vaccine for chronic periodontitis for the past 15 years, a team of scientists from the Oral Health CRC at the University of Melbourne has published their latest findings.

"Periodontitis is widespread and destructive. We hold high hopes for this vaccine to improve the quality of life of millions of people," said Prof. Eric Reynolds, CEO of the Oral Health CRC.

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Currently, periodontitis is treated by manually removing toxic plaque that builds up between the tooth and the gingivae, which sometimes involves surgery and antibiotic regimes. Although these measures are helpful, in many cases the bacterium re-establishes itself in the dental plaque, which causes a microbiological imbalance, so the disease continues, Reynolds said.

Epidemiological surveys indicate that moderate to severe forms of periodontitis affect about one in three adults worldwide. Left untreated, the condition can result in the destruction of gingival tissue and ultimately in tooth loss.

Several studies have further linked the disease to an increased risk of various health conditions, including cardiovascular diseases, certain cancers, preterm birth and dementia. If implemented in clinical practise, an effective vaccine for chronic periodontitis could therefore help combat the global burden of these widespread diseases as well.

The results of the study were published in the NPJ Vaccines journal on 1 December in an article titled "A therapeutic Porphyromonas gingivalis gingipain vaccine induces neutralising IgG antibodies that protect against experimental periodontitis."
Barriers to cleft lip and palate surgery persist in Vietnam

By DTI

LOS ANGELES, USA: Charitable organizations perform more than 80 per cent of cleft lip and palate surgeries in Vietnam, a new study by US researchers has found. According to the scientists, this reflects the complex and persistent barriers to surgical care in low- to middle-income countries (LMICs) and shows that charitable missions remain a critical source of access to surgical care for these states.

Cleft lip and palate are the most common craniofacial birth defects, occurring in between one in 1,000 to one in 2,500 infants worldwide. “The defect not only results in physical obstacles to feeding and language development, but patients are often subjected to significant social stigma,” the researchers stated.

They surveyed approximately 450 Vietnamese families seeking cleft lip and/or palate repair surgery for their affected child. Some of the children had already undergone surgery for their condition previously (54 per cent) and 46 per cent of them were seeking surgical care for the first time. The families were seen at four medical missions sponsored by the international charity Operation Smile. Parents were asked in-depth questions about their perceptions of the barriers to surgical and medical care for their child’s condition.

Facing structural, financial and cultural barriers to cleft lip and palate surgery, patients in LMICs rely on charitable care outside the centralised health care system, the study report pointed out. “As a result, surgical treatment of cleft lip and palate is delayed beyond the standard optimal window to more developed countries,” the researchers wrote.

At the time of initial cleft surgery, nearly three-quarters of the families had health insurance coverage. Nevertheless, 83 per cent had their surgery performed by a charitable organisation outside of the national health care system. While most parents had a local hospital that was more accessible than the charitable mission, they could not obtain cleft treatment there, mainly owing to cost. About 40 per cent stated that, without the charitable mission, they would not have had access to any surgical or medical treatment for their child’s condition.

The survey found a wide range of structural, financial and cultural barriers to cleft care. Structural barriers included lack of trained medical staff, equipment and medicine. Financial barriers were identified as not only the cost of the surgery, but also the cost of travel to obtain care. Cultural barriers included family members’ opinions and permission, as well as lack of trust in the medical system and staff.

According to the researchers, these barriers need to be better understood in order to design more effective programmes for both missions-based and locally sustainable surgical care in LMICs. On the basis of their findings, they proposed a new surgical LMIC model that accounts for the unique barriers and specific challenges to accessing surgery in resource-poor countries—especially for conditions that require multiple operations, such as cleft lip and palate.

Improving access to surgical care has become a major global health priority, the researchers said. However, the current knowledge gap on providing surgery in LMICs—including the need for specialist facilities, physicians and follow-up care—has only begun to be studied. Thus, even in countries with near-universal health coverage, charitable missions remain a critical source of access to surgical care, they concluded.

For their child affected by cleft lip and/or palate, more than 80 per cent of Vietnamese families surveyed in a study sought surgical care in a charitable mission—although 73 per cent of them had health insurance.

For the November issue of Plastic and Reconstructive Surgery, the journal of the American Society of Plastic Surgeons, "patients are often subjected to significant social stigma..."
“Antibiotic resistance is a serious health issue”

By Brendan Day, DTI

The use of antibiotics is essential in modern medical treatments, yet frequent misuse has reduced their effectiveness. This year’s World Antibiotic Awareness Week (WAAW), held from 14 to 20 November, sought to increase public understanding of the issue.

Dental Tribune spoke with Dr Paul Sambrook, Chairman of the Dental Therapeutics Committee of the Australian Dental Association (ADA), about WAAW’s purpose and what dental professionals can do to combat antimicrobial resistance.

Dental Tribune: What is the primary goal of WAAW?

Dr Paul Sambrook: The aim of the WAAW is to increase awareness of global antibiotic resistance and to encourage best practices among the general public, prescribers and policymakers to avoid the further emergence and spread of antibiotic resistance.

How widespread of a problem is misuse or overuse of antibiotics in Australia?

Dentists prescribe less than 3 per cent of all antibiotics prescribed in Australia. However, information from NPS MedicineWise states that Australia has one of the highest prescription rates globally, with around 29 million prescriptions issued each year—more than one per person on average.

Antibiotic resistance is a serious health issue already present in our community. Without antibiotics, infections that were once easily treated may once again kill.

If we do not address antibiotic resistance, by 2050 up to ten million people may die every year from untreatable infections.

How did the ADA encourage involvement during WAAW?

The continuing theme of “Antibiotics: Handle with care” for this year’s WAAW is highly relevant for dentistry. People with dental problems sometimes think that popping a painkiller or seeing their doctor for antibiotics is the best response rather than having a proper examination by their dentist.

The ADA has been doing its part to address the problem of antibiotic resistance by advising members through informational articles in its regular publications and website. ADA members have access to a highly experienced clinical pharmacist, guidelines, which provide reliable and independent therapeutic information to assist in making the best decisions for patients in a dental setting.

How can dental professionals help minimise the risk of increasing antimicrobial resistance?

The first response to dental problems must always be accurate assessment by a dentist who can deal with the cause, not just the symptoms. That is our message to patients.

We urge dental professionals to use the opportunity to educate their patients about how to address dental problems they have pre- and post-treatment and where antibiotics do or do not fit in their particular case.

To ensure that dental professionals are prescribing antibiotics in line with best practice, ADA members can use services such as PharmaAdvice and the afore-mentioned therapeutic guidelines.

Thank you very much for the interview.

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