Frequent dental scaling might reduce infection risk after knee replacement

By DTI

TAINAN, Taiwan: Oral bacteria that enter and spread through the bloodstream have been found to cause about 10 per cent of peri-prosthetic joint infections after total knee arthroplasty (TKA). Therefore, TKA patients are often advised to pay special attention to their oral health. A team of Asian researchers has now found that frequent dental scaling might reduce the risk of infection after TKA.

For patients with end-stage osteoarthritis, TKA is a common treatment to improve function and reduce knee pain. However, in some cases, patients contract subsequent peri-prosthetic joint infections. With a risk of about 2 per cent, these infections are the most frequent complication after TKA and may lead to functional loss, revision surgery and increased mortality.

In about one tenth of all cases, TKA infections are caused by oral bacteria that enter the bloodstream and cause transient bacteraemia, the temporary presence of bacteria in the blood. Oral bacteraemia may occur because of dental treatments, such as extractions or dental scaling, but also as a result of daily oral care, including toothbrushing and flossing. The condition has been found to occur more frequently in patients with poor oral health. Dental plaque accumulation and gingival inflammation in particular are thought to significantly increase the prevalence of bacteraemia after toothbrushing.

Regular dental scaling to remove plaque and calculus contributes to maintaining oral health and is provided by many dentists as part of routine dental care. Therefore, the researchers from National Cheng Kung University in Tainan hypothesised that it might be a possible way to reduce the risk of peri-prosthetic infection in TKA patients. In their study, the scientists investigated the association between the frequency of dental scaling and the risk of peri-prosthetic joint infection, using data from Taiwan’s National Health Insurance Research Database, which contains data on 99 per cent of the country’s population.

The researchers analysed 1,291 patients who had undergone TKA between 1999 and 2002 and needed revision surgery within five years after the initial operation owing to a peri-prosthetic infection. They compared these cases to a control group of age- and sex-matched TKA patients who had not had any peri-prosthetic infection.

The scientists found that the patients in the infection group had undergone less frequent dental scaling within the three-year period before their endoprostheses had to be removed. Of these patients, 73.1 per cent had not visited a dental clinic during that time to have dental check-ups and scaling, compared with 67.8 per cent in the control group. Only 7.1 per cent of the patients with a peri-prosthetic infection underwent regular dental scaling, whereas 10 per cent of the patients in the control group did.

Statistical analysis showed that patients who had received dental scaling one to four times during the three-year period had a 16 per cent lower risk of infection than patients who had not undergone the dental procedure. For patients who had seen the dentist five to six times for dental scaling the risk was 31 per cent lower. The researchers concluded that regular dental scaling might reduce the risk of peri-prosthetic joint infection in TKA patients, as it can improve oral health and thereby reduce the risk of transient bacteraemia caused by oral bacteria. However, further research is required to confirm this connection, they stated.

The study, titled “Frequent dental scaling is associated with a reduced risk of peri-prosthetic infection following total knee arthroplasty: A nationwide population-based nested case-control study”, was published online in the PLOS ONE journal on 23 June.

"For patients with end-stage osteoarthritis, TKA is a common treatment to improve function and reduce knee pain."

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*The final closing date for entries is Saturday, 31th December 2016. Multiple entries are possible, there is no maximum number, but the same image can only be entered once. Each image should be saved in the .jpg/jpeg format not larger than 3 MB with a medium to high quality. Only entries submitted by e-mail to ifeelgood@ems-ch.com will be accepted. The price for the best entered picture is a trip to the EMS headquarters in Nyon, Switzerland (incl. air fare, free board and lodging and an exclusive EMS plant tour).

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DTI publishers discuss future strategies at annual meeting

BERLIN, Germany: The Dental Tribune International (DTI) publishing group, which consists of about 30 publishers around the world, customarily meets once a year to present its latest products and introduce new partners. This year, the 12th Annual Publishers’ Meeting was held from 4 to 6 September at the picturesque Greater Wannsee lake in the German capital of Berlin. Over 50 people from about 20 countries, including partners from Asia, Australia, Europe, the Middle East and the US, attended.

New publications
Over the past 13 years, the DTI publishing network has grown significantly. Today, DTI reaches over 650,000 dental professionals in 25 different languages in about 90 countries around the globe. The DTI group is continuously seeking new partners to expand its portfolio into new markets. At the meeting in Berlin, the group welcomed two new partners, from Israel and Iran, who will be publishing their respective localized versions of the Dental Tribune newspaper and providing updates on their particular market on local websites on www.dental-tribune.com.

Furthermore, the publishers were introduced to one of DTI’s newest publications, the Journal of Oral Science and Rehabilitation, which was launched in 2015. It originated from the efforts of a large group of researchers involved in the advancement of implant dentistry. The aim of the journal is to promote rapid communication of scientific information. Released quarterly in March, June, September and December each year, it publishes original and high-quality research and clinical papers in the fields of periodontology, implant dentistry, prosthodontics and maxillofacial surgery.

New services
The publishers had the opportunity to learn more about the DTI Communication Services offering. As the importance of content marketing is growing rapidly in all industries, including dentistry, DTI established this new division last year. The department aims to assist smaller and mid-sized companies, in particular, in communicating more effectively with their audiences through tailor-made targeted editorial support, video production, event organisation and publishing.

IDS 2017
A major topic covered at the meeting was the International Dental Show (IDS), the most important trade fair in the dental industry. In collaboration with its German licensee OMEGA MEDIA, DTI will be publishing a new issue of its well-established today newspaper on each of the six days, providing comprehensive coverage of the previous day’s events. For the first time, the two publishers will be setting up a lecture forum at their booth—known as the Media Lounge, a restaurant and meeting area at which leaders in dentistry conventionally gather during IDS. At the forum, which will seat up to 200 participants, DTI will be holding Dental Tribune Study Club lectures and press conferences through DTI Communication Services.

New online activities
Moreover, the publishers were informed about DDS WORLD, a website that was recently launched by DTI and promises to become the most comprehensive resource in dentistry. It is a full-service digital marketplace for products, news, e-learning and practice management, and targeted at vendors, dentists, dental technicians and patients alike. Owing to its comprehensive approach, DDS WORLD has the potential to become the most important platform in dentistry and will thus help DTI secure its position in the market, as the importance of online marketplaces is growing in all industries.

DTI further announced the relaunch of its website, www.dental-tribune.com, which is scheduled to go live with a completely new design and layout in spring next year.

New verticals
For the meeting in Berlin, DTI also invited a number of representatives of Curaden, the Surgical Tribune and the Berufsverband für Orthopädie und Unfallchirurgie (German association for orthopaedic and trauma surgery), Architectural Tribune, Luna media Group, One Art Nation and MediCloud to present their projects to the publishers.

The 13th Annual Publishers’ Meeting will take place from 18 to 20 March 2017 at the Hilton hotel in Cologne, prior to IDS.