

Plasma-based treatment shall improve

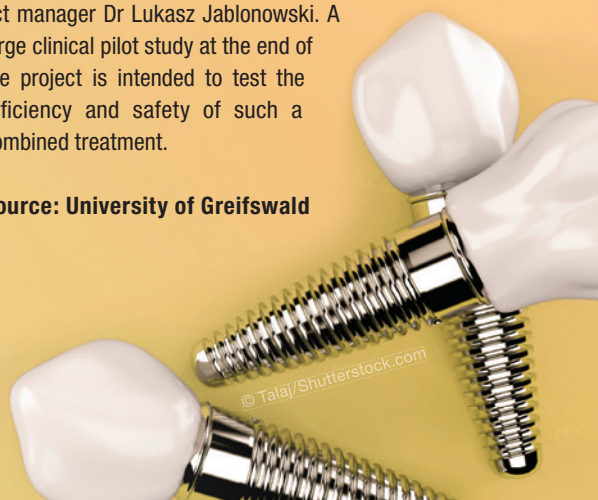
Peri-implantitis therapy

Scientists of the University of Greifswald are currently working on developing a plasma-supported method that can be used for the cleaning of infected implants. Implants, just like teeth, have to be properly maintained, regularly checked and professionally cleaned in order to prevent health issues like peri-implantitis. This disease, if untreated, can lead to tissue infection, bone reduction and ultimately implant loss. A three-year project funded by the Federal Ministry of Education and Research to explore new approaches for proper cleaning of infected implants was thus initiated. In a cooperation between scientists from Greifswald and two medical technology companies the PeriPLas project is aiming at establishing a basis for a safe and effective method for curing peri-implantitis that can eventually be used in daily clinical practice.

The advantages of efficient therapy methods like mechanical cleaning with abrasive systems, treatment with a diode laser and with an atmospheric-pressure plasma jet shall be analysed and most promisingly combined. "Mechanical cleaning is necessary to remove the biofilm. The reduction of living microorganisms

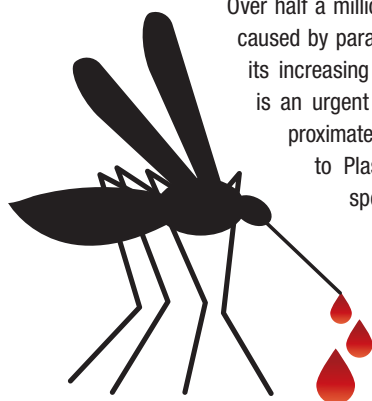
can be supported with the diode laser. Cold plasma can eliminate remaining bacteria and activate the implant surface in order to favour osseointegration [...]," stated project manager Dr Lukasz Jablonowski. A large clinical pilot study at the end of the project is intended to test the efficiency and safety of such a combined treatment.

Source: University of Greifswald



Toothpaste ingredient triclosan may help

Fight drug-resistant malaria



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Over half a million deaths per year result from malaria, caused by parasites of the genus *Plasmodium*. Due to its increasing resistance to all existing drugs, there is an urgent need to develop new medication. Approximately 90 per cent of these deaths are due to *Plasmodium falciparum*, the parasite responsible for the most severe forms of the disease. Researchers from the University of Cambridge have now investigated triclosan as a potential antimalarial substance. As a simple antimicrobial agent commonly found in toothpastes, it prevents the build-up of plaque bacteria by preventing the action of an enzyme known as enoyl reductase (ENR).

The researchers now discovered that triclosan affects parasite growth by also specifically inhibiting an enzyme of the malaria parasite, called dihydrofolate reductase (DHFR). DHFR is the target of a well-established antimalarial drug, pyrimethamine; however, resistance to the drug among malaria parasites is common, particularly in Africa. The Cambridge team now showed that triclosan was able to target and act on this enzyme even in pyrimethamine-resistant parasites, offering hope that with its ability to target two stages in the malaria parasite's lifecycle it could be used for the development of a new medication.

Source: DTI

Cavitating jets improve

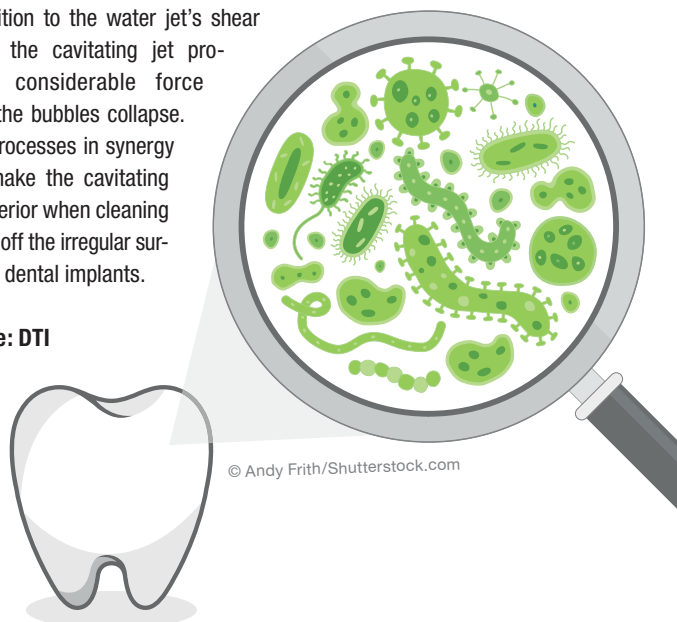
Removal of oral biofilm

In their recent study, "Removal of oral biofilm on an implant fixture by a cavitating jet", Prof. Hitoshi Soyama from Tohoku University and his team from Showa University searching for better ways for dentists to remove plaque from implant fixtures compared the effects of a cavitating jet to the standardly used water jet. With the cavitating jet, high-speed fluid is injected by a nozzle through water to create minuscule vapour bubbles, which in collapsing produce shock waves with sufficient force to remove surface contaminants.

To test the two jets, four volunteers performed no oral care for three days to allow biofilm to develop. Their fixtures were then cleaned using both methods, with the Japanese researchers measuring the amount of plaque remaining at several time intervals. They found the cavitating jet to be more effective in removing biofilm from the rough surface of an implant fixture.

In addition to the water jet's shear effect, the cavitating jet produces considerable force when the bubbles collapse. Both processes in synergy thus make the cavitating jet superior when cleaning plaque off the irregular surface of dental implants.

Source: DTI



Global congress in periodontology

EuroPerio9 in Amsterdam

EuroPerio9 as one of the leading congresses in periodontology and implant dentistry will be taking place from 20 to 23 June 2018 at the RAI convention centre in Amsterdam, the Netherlands.

As EuroPerio9 chair, Michèle Reners, stated: "This will be a truly international congress. Abstracts came from 85 countries and we expect up to 10,000 delegates from over 150 countries. The top quality of EuroPerio9 presentations and speakers attracts dental and other health professionals from all over the world, who are interested in the science, management and prevention of gum disease and in advances in implant dentistry."

Søren Jepsen, the scientific chair of EuroPerio9, highlighted studies on genetics, the microbiome, the role of artificial intelligence in disease modelling, trends in antibiotic resistance, new diagnostic tools and minimally invasive therapies as the hot topics of this year's congress. Additionally, studies about the links of gum disease to other medical conditions such as diabetes and cardio-

vascular disease will be presented.

"Indeed, one of the key messages the EFP wants to stress is the importance of periodontal care for oral health as well as for general wellbeing," said Jepsen.

New interactive session formats like debate, treatment planning and live surgery sessions will complete the programme. The EFP Perio Contest where the cases to be examined will be decided via social media will be a further interactive highlight. Programme details are available at: www.efp.org/europerio9/programme.

Source: EFP



Possible link between family size and

Tooth loss in mothers revealed

Researchers of a recent study, titled "Gain a child, lose a tooth? Using natural experiments to distinguish between fact and fiction", found that having a larger family may be linked to higher tooth loss in mothers—suggesting the old saying might have more truth to it than first thought. To further investigate, they drew on data from Wave 5 of the Survey of Health, Ageing and Retirement in Europe (SHARE). SHARE contains information on the health, educational attainment and household income of more than 120,000 adults aged 50 years and over from 27 European countries and Israel. Wave 5, completed in 2013, surveyed the full reproductive history and number of natural teeth of 34,843 respondents, with an average age of 67.

The researchers also examined the potential impact of having twins or triplets rather than singletons. Further the sex of the first

two children was taken into account assuming that if they were of the same sex, the parents might be tempted to have a third child. According to the results, women with three children had an average of four fewer teeth than women with two children, suggesting the addition of a third child may be detrimental to the oral health of mothers. However, tooth loss also increased with age, ranging from nearly seven fewer teeth for women between 50 and 60. Further higher levels of educational attainment were linked to lower risk of tooth loss among women.

The researchers thus suggested enhanced promotion of oral hygiene, tooth-friendly nutrition and regular preventative dental attendance specifically for expecting and parenting mothers.

Source: DTI



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