MALMÖ, Sweden: A research project on chronic oral infections, led by Prof. Gunnel Svensäter from Malmö University, has been awarded a grant of SEK 12 million (€ 1.3 million) by the Swedish Knowledge Foundation. The researchers aim to develop new clinical tools to diagnose and treat such infections.

In a statement, the foundation acknowledged that research on chronic oral infections offers immense potential and could be of considerable benefit for patients, the dental care system, industry and society in general. To date, there are no reliable methods in dental care for identifying individuals with an increased risk of serious tooth and implant infections. Therefore, the Malmö researchers are targeting the development of new clinical tools in order to enhance diagnosis and treatment of such conditions.

“We are searching for proteins that exist in biofilms around teeth and implants. The proteins can originate either from bacteria or from human cells. If these proteins could be found it would be possible to identify the site as a potential source of infection and treatment could be initiated at an early stage,” Svensäter, Professor of Oral Biology at the university’s Faculty of Odontology, said.

The lead researcher furthermore foresees potential financial benefits from developing diagnosis tools that could be used worldwide, for both the health care system and companies. “The problem we are endeavouring to solve is significant and exists on a global scale. Some 10 per cent of the Swedish population could experience serious problems involving chronic infections that could result in them losing their teeth. The scenario is much the same throughout the rest of the world,” she said.

The four-year project, which brings together microbiologists, cellular biologists, chemists and clinical experts, among others, will focus on first finding protein markers in laboratory experiments and later proceed to clinical studies with patients.

According to Svensäter, the research project has been in the planning for a number of years. “We now have the right research group and the right companies in place and we are extremely pleased.”

Adding to donations of about SEK 12 million by companies, as well as the university’s contribution of SEK 6 million (€ 0.6 million), the grant by the foundation brings the project’s total budget to SEK 30 million (€ 3.2 million).

The Knowledge Foundation is a funding body for universities and serves to strengthen Sweden’s competitiveness. Since its formation in 1994, the foundation has invested about SEK 8.7 billion (€ 942 million) in more than 2,500 projects.

The International Congress of Oral Implantologists (ICOI) will kick off the new scientific year with the 2016 ICOI Winter Implant Symposium in sunny Miami in the US. From 12 to 14 February, the event will once more gather a group of distinguished international speakers to share their knowledge and experience on dental implants and associated subjects with clinicians from around the globe.

Attendees can expect a diverse scientific programme covering such topics as new protocols for immediate loading, bone grafting applications, zygomatic implants and advances in the ever-evolving world of digital dentistry.

Additionally, an array of didactic and hands-on pre-conference courses will provide the opportunity to meet and interact with the speakers in a more personal educational environment.

A special highlight of the event will be the celebration of the ICOI’s newest class of diplomates, masters and fellows at the Advanced Credentials’ Awards reception. The venue for the Winter Implant Symposium is the prestigious Trump National Doral Miami. Located in the downtown area of Miami, the 800-acre resort offers recreational on-site amenities, such as spa and wellness facilities, premier dining and four championship golf courses.

For more information and to register for the 2016 ICOI Winter Implant Symposium, please visit www.icoimiami2016.org.
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New study suggests many dental implants may be prone to fracture

by DTI

HAIFA, Israel: An examination of 100 biologically failed dental implants has found that more than 60 per cent of these implants showed signs of mechanical flaws, such as crack-like defects and full cracks. In publicising these results, the researchers aim to encourage dental implant manufacturers and dentists to find ways to reduce the structural damage that occurs when a metal is subject to repeated applied loads.

In the study, the researchers examined 100 discarded dental implants, which had been extracted owing to peri-implantitis, made of a titanium alloy and commercially pure titanium using energy dispersive X-ray analysis and scanning electron microscopy. They found mechanical defects in 62 per cent of the specimens. In addition, the inspection showed that the pure titanium implants had more cracks than did the titanium alloy implants.

"Embedded particles appear to be linked to the generation of surface defects that evolve into full cracks," explained Dr Keren Shemtov-Yona, a dental researcher at the Technion—Israel Institute of Technology, who conducted the study as part of her Master of Science degree. Furthermore, the wear and tear of daily use may also contribute towards the potential of manufacturing flaws to develop into cracks and subsequently lead to failure of the material, the researchers stated. It was also found that the width and length of the different implants in this study were not correlated with the observed defects.

Shemtov-Yona is now aiming to conduct further studies to investigate the reasons for the development of cracks to determine whether the cause lies in manufacturing, use or both.

The study, titled “On the mechanical integrity of retrieved dental implants”, was published in the September issue Journal of the Mechanical Behavior of Biomedical Materials.