

Gingival implant supports

Reduction of cluster headache



Cluster headache is one of the most severe forms of headache. It is usually unilateral and occurs mostly around the eye or in the temple. Attacks last up to several hours. In many people, cluster headache leads to a significant loss of quality of life. A new type of cluster headache treatment is the stimulation of the sphenopalatine ganglion (SPG). The ATI Neurostimulation System stimulates the SPG in order to break the pain cycle. The neurostimulator, which is the size of an almond, is inserted through a small incision in the gingiva and programmed by the physician. As cluster headache occurs unilaterally, the implant is inserted on the relevant side. The surgery is performed under general anaesthetic and takes about an hour.

The patient can control his or her therapy independently via a remote control. When a cluster attack occurs, he or she holds the device against the cheek to activate the implant. This stimulates the SPG and abates the attack. In many patients, the frequency of attacks decreases permanently.

The effectiveness of the ATI Neurostimulation System has been clinically proven in the most comprehensive medical study on cluster headache. With the ATI neurostimulator, 82 per cent of all attacks—even medium to severe—can be treated effectively, the manufacturer, Autonomic Technologies, stated. In 46 per cent of patients, the attack frequency was reduced significantly—from an average of 14 down to two attacks per week. The ATI Neurostimulation System has been introduced at nine clinics in Germany and is in use in Belgium.

Dental implants and prostheses

Market worth more than \$9 billion by 2018

The global market for dental implants and prostheses is estimated to be worth \$9.1 billion by 2018, Market-sandMarkets, a US-based market research and consulting company, has announced. This means a 30 per cent increase compared to 2013, when the market was estimated to be worth \$6.4 billion. The market is driven mainly by the rising edentulous population, increasing adoption of advanced dentistry in developed countries, the increase in disposable incomes, and increasing awareness of dental care.



Despite the increase, the economic slowdown and limited reimbursement are factors that inhibit the growth of the market to a certain extent, the company explained in a press release. Despite competitive pressure from local players, the key contributors are expected to retain their leading positions in the global

market. This is primarily supported by continuous investment by these companies in research and development and by their strong global presence. Therefore, the top three companies are expected to maintain their positions with around 50 per cent share of the dental implants market in the next few years. The major players in this market include Liechtenstein-based Ivoclar Vivadent, Swiss companies Nobel Biocare and Straumann, as well as US manufacturers DENTSPLY International, Zimmer Dental, BIOMET 3i, BioHorizons and 3M.

The complete report, titled "Dental Implants & Prosthetics Market (Implants, Crowns & Bridges, Dentures, Abutments) Current Trends, Opportunities & Global Forecasts to 2018," which discusses the key market drivers, restraints, and opportunities of the global implants and prostheses market, as well as its submarkets, can be purchased online.

Could chewing gum prevent

Implant failure in the future?

About 6 to 15 per cent of patients suffer from peri-implantitis, inflammation that destroys soft and hard tissue surrounding the implant after placement. It is known that the concentration of matrix metalloproteinase-8, an enzyme that is also responsible for periodontitis, increases significantly when inflammation around the dental implant arises. Prof. Lorenz Meinel from the Institute of Pharmacy and Food Chemistry at the University of Würzburg explained that this increase could be identified through a special chewing gum using a small peptide chain that is bound to a bitter-tasting compound. Once enzyme concentrations in a patient's saliva exceed a certain level owing to complications with the implant, the peptide chain will snap, releasing the bitter compound. In the future, special chewing gum could be part of post-operative care in addition to routine check-ups. Patients would have to contact their dentist upon recognising the bitter taste.

In addition to the development of the chewing gum, the researchers are considering developing a coating that uses the peptide chain system and can be applied to the implant directly.



The project will be carried out in collaboration with Swiss dental implant manufacturer Thommen Medical and various other European companies and scientific institutions. The research has received funding of €1 million for two years from the European Union.