

عنوان مقاله:

Investigation of surface element properties in explanted implants due to peri-implantitis: An in vitro study

محل انتشار:

مجله بهداشت دهان و دندان و اپیدمیولوژی دهان و دندان، دوره 9، شماره 2 (سال: 1399)

تعداد صفحات اصل مقاله: 5

نویسندگان:

Hasan Gundogar - Assistant Professor, Department of Periodontology, School of Dentistry, Gaziantep University, Gaziantep, Turkey

Meral Uzunkaya - Ministry of Health Hospital, Gaziantep, Turkey

خلاصه مقاله:

BACKGROUND AND AIM: Osseointegration is the connection between alveolar bone and implant surface. After peri-implant diseases, the surface structure is changed, but the surface properties of the dental implant are crucial in re-osseointegration. This study aimed to examine the surface element levels of explanted implants due to peri-implantitis by scanning electron microscopy/energy-dispersive x-ray spectroscopy analysis (SEM-EDX). **METHODS:** Ten explanted sandblasted, large grit, acid-etched (SLA) surface dental implants (Straumann Roxolid, Straumann GmbH, Freiburg, Germany) were used for the study. Explanted implants were washed with distilled water/air spray to purify blood and debris, dried with air spray, and waited for test time at room temperature. Explanted implants were examined using a SEM. The samples were not coated with gold, and images were taken at $115\times$ and $1000\times$. SEM-EDX was performed at three-point for each sample to analyze relative concentration or weight percent (wt%) of carbon (C), oxygen (O), sodium (Na), aluminum (Al), titanium (Ti), and zirconium (Zr) with same SEM. **RESULTS:** In the explanted implants, osseointegrated bone (0.1-0.5 mm wide) residues were observed in places, especially in the apical region. Regarding metal-to-metal labeling on the surfaces of dismantled implants, no findings such as surface scratches, fractures, and cracks were found. In explanted implants, the amount of C was relatively higher, while the amount of Ti was relatively lower. **CONCLUSION:** Within the limitation of this study, it can be said that the C amount is high, and the amount of Ti is low in explanted implants relatively. Further research is needed to understand the effect of surface elements on re-osseointegration, where the number of samples is high.

کلمات کلیدی:

Osseointegration, dental implants, Peri-implantitis, Scanning Electron Microscopy

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/2038754>

