

Report of “Research Award of Oral Science”

Major: Oral Science
Grade: 3rd grade
Department: Department of
Stomatognathic Function
and Occlusal
Reconstruction
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Title: Identification of risk factors involved in the progression of peri-implantitis

My research is based on the current prevailing situation in Mongolian Implant dentistry. In Mongolia implant as a treatment modality was introduced in 2005. After 5~8 years of implant placement, various complications and failures were noted. These complications were in the form of peri-implantitis. After joining Tokushima University I focused my research to evaluate the implant failures due to peri-implantitis. My guide Professor Yoshizo Matsuka helped me to select a proper topic related to my research question and also encouraged me to develop a research protocol and methodology related to it.

The main purpose of my research is to identify the risk factors involved in the progression of peri-implantitis. It is further sub-divided into evaluating the prevalence and progression of marginal bone loss in the peri-implant area and evaluation of various implant related parameters influencing the marginal bone loss.

My research investigation started in April 2015 and is based in Dept of prosthodontics of Tokushima University Hospital. Those Patients in whom implant supra-structure were placed between 2003 and 2014 were included in the study. Following patients were excluded from the research: patients who did not report on follow-up after supra structure placement within one year, who were not evaluated radiographically, not identified on patient chart, implant surgery was done in University Hospital but prosthetic supra-structure were placed in another hospital and those didn't agree to participate in the research.

The main outcome measure was initially the presence or absence of marginal bone loss around implant fixture. If the marginal bone loss was detected on the panoramic and dental X-ray images, further investigation to identify the onset and progression period on patient chart was undertaken. After 2 step sampling investigation was done, total data included 221 patients with 916 implants. Mean age of the patient recorded was 59.2 ± 8.8 including 63 male and 174 female patients.

Average age at the date of first implant placement was 62.3 ± 7.8 , the average number of implants per patient was 3.21, average prosthetic loading time was 1.7 years. 408 implants

were Replace Select (Nobel Biocare, Switzerland), 378 implants were Branemark system (Nobel Biocare, Switzerland), 31 implants were Astra Tech (Dentsply Sirona, US) 17 implants were ITI (International Team of Implantologists), 23 implants were Stri-Oss (Nobel Biocare, Switzerland).

Statistical analysis was done using ANOVA, Wilcoxon test and Spearman rank correlation. ANOVA analysis showed that progress of bone loss was related to gender and implant site. There is no significant difference in bone loss per year between implant positions and significant negative correlation between bone loss per year and the number of the implants in the same supra-structure unit was also noted.