

Novel Non-Submerged Implants Replacement of Mandibular Tooth Extraction Sites in Beagle Dogs

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Several implant systems are composed of two parts; one fixture and one abutment. But there are a little systems which are composed of only 1 part and require only 1 surgical intervention. It is important to reduce the number of surgical procedures in veterinary medicine. Wound healing of different phases in the process of osseointegration was investigated, when using novel one-stage (non-submerged) implant for mandibular premolars of beagles.

We used two different implant systems; one implant system with abutment was designed by non-submerged pure titanium with fully threaded apex, and another implant system was submerged type without abutment. Twelve beagles received 48 implants totally to allow the evaluation of healing between day 0 and 12 weeks. The animals were euthanized at 12 weeks after surgery and block biopsies were prepared for histologic and histometric analysis.

The results of the histometric analysis indicated that mean value of the bone-implant contact of the submerged group was significantly higher than that of the non-submerged group. In the mean values of the inside bone volume and outside bone volume, there were no significant differences between two groups.

We considered that the non-submerged implant may might provide similar conditions for tissue integration that a submerged implant did except that bone-to-implant contact percentages of the non-submerged implant was lower than that of the submerged implant.

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