

## Evaluation of the osseointegration in immediately loaded implants in the premolars of the mandible in Beagles

Dae-Jin Kim, Jung-Eun Kim, Woo Choi, Kwang Ho Jang\*

*Department of Veterinary Surgery, College of Veterinary medicine,  
Kyungpook National University*

Tooth restoration with implant placement have been interested in modern veterinary dentistry. It is important not only to reduce the interval between the tooth extraction and the insertion of the implants, but also to determine the restoration time after implant placement in dogs

The aim of this study was to compare the bone mineral apposition rate of immediately loaded implants with an unloaded control during the early healing state in the artificial extraction mandible.

In four Beagles, two premolars (PM2 and PM3) of the both sides of the mandible were installed with one- stage titanium mini-implants with a length of 10 mm and a diameter of 3.37 mm immediately after tooth extraction. Provisional restorations were given to implants, 3 weeks after implant placement in the left side (immediate loading) and 12 weeks in the right side (delayed loading). Radiographic and histological examinations were performed.

Radiographic evaluation revealed no significant difference between two groups. Bone-implant contact was  $47.1 \pm 8.9$  in immediate loading and  $50.2 \pm 8.2$  in delayed loading, interthread bone density was  $78.7 \pm 10.9$  in immediate loading and  $73.1 \pm 15.5$  in delayed loading, and peri-implant bone density was  $95.4 \pm 7.1$  in immediate loading and  $95.0 \pm 5.2$  in delayed loading, respectively. Three histological analyses showed no significant difference between delayed loading and immediate loading

Followed by this study, the immediate loading of implants inserted into fresh extraction sockets immediately after tooth extraction could be considered in veterinary dentistry.

---

\* Corresponding author: khojang@knu.ac.kr