J Vet Clin Vol. 23, No. 1(Suppl.) May (2006)

Ultrasonographic and Radiographic Assessment of Critical Sized Radial Defects in Beagle Dogs

Jong-Hoon Jeon, Yun-Sang Seong, Kum-Jung Moon, Sun-Hee Bae,
Tae-Kyung Byun, Gyoung-Ho Song, Ki-dong Eom1 . Kwang-Ho Jang*

Veterinary surgery, College of Veterinary Medicine, Kyungpook National University
[1]Veterinary diagnostic imaging, College of Veterinary Medicine, Konkuk University

Introduction: The purpose of this experiment was to determine the usefulness of Osteoset® when applied to bone damages in dogs using radiography and ultrasonography.

Materials and Methods: A 15 mm bony defect was taken on each of the eight dog's radius using an electrical saw and an external fixator was applied. The experimental group was divided into control group(group 1) and experimental group(group 2). The implantation material(Osteoset®) in the bone defect was applied to the latter group. Each fracture site was evaluated using plain radiography and ultrasonography.

Results: Radiographic callus formation occurred after 11.5±1.12 days in group 1 and 11.5 ±0.5 days in group 2. In group 1 neovascularized flow signal could be seen 6.5±1.5 days after operation and the vascular signal disappeared after 45±6.16 days. In group 2 neovascularized flow signal was observed after 6.75±1.78 days and the vascular signal disappeared after 23.25±3.03 days which was caused by acoustic shadowing. Union of the radius was observed in group 2 but not in group 1.

Clinical relevance: The results observed by ultrasonography and radiography indicate that Osteoset® is useful in inducing repair and union of bone defects in dogs.

Key words : bone defect, bone healing, osteoset, ultrasonography, dog

*Corresponding author: khojang@knu.ac.kr