

Gross, radiology and ultrasonographic evaluation of coral post-implantation in sheep femur.

ABSTRACT

This study was carried out to macroscopically evaluate the ability of coral to repair a large size bone defect. A total 12 adult, male sheep were divided into 4 groups. The large bone defect (2.5 cm x 0.5 cm x 0.5 cm) was created surgically on the left proximal femur and replaced by a block of coral (*Porites* sp.). Radiographs were obtained immediately after surgery and at 2, 4, 8 and 12 weeks postimplantation. Ultrasonographic examinations were carried out every 2 weeks after implantation up to 12 weeks using ultrasound machine (TOSHIBA Capasee II) connected with a 7-MHz frequency transducer. The sheep were euthanized at 2, 4, 8 and 12 weeks postimplantation and the bone was examined grossly. Both ultrasonographs and radiographs taken at 8 and 12 weeks showed that the implants had resorbed and left a space that was much reduced in size. There was no sign of implant rejection observed in all animals. The results showed that processed coral had potential to become bone substitute for reconstructive bone surgery.

Keyword: Abnormalities; Bone diseases; Bone resorption; Femur; Implantation; Radiography; Surgery; Surgical operations; Ultrasonography,