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Efficacy of bovine collagen 10% alginate dressing on cutaneous wound healing in dogs

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The study was conducted in twelve dogs with clinical signs of full thickness non-healing cutaneous wounds brought to the University Veterinary Hospitals of Mannuthy and Kokkalai, College of Veterinary and Animal Sciences, Kerala Veterinary and Animal Sciences University, India to evaluate and compare the efficacy of bovine-collagen and bovine collagen-10% alginate sheets in canine skin wound healing. The dogs were randomly divided into two groups viz., a pre-sterilized bovine collagen-10% alginate sheet (Group-I) and a pre-sterilized bovine collagen sheet (Group-II), on wound surface after thorough surgical debridement under general anesthesia. Re-application of the dressings was carried out at 48 hours intervals for three times followed by weekly bandaging. Wound attributes were studied on the day of presentation and 7th, 14th and 28th days post-application. Skin punch biopsy taken from representative samples on day 28 were subjected to Gomori's one step trichrome staining to study the extent of collagen deposition and orientation of fibers, fibroblast proliferation and regeneration. The study revealed no significant difference in the efficacy between bovine collagen - 10% alginate and bovine collagen sheets in full thickness cutaneous wound healing in dogs. Both the collagen sheets were well tolerated by the patients with no adverse reactions and healing could be observed within 28 days with near to normal histomorphology. However, addition of 10 percent alginate in bovine collagen dressings could achieve absorption of exudates significantly early, higher rates in reduction of wound surface area, wound contraction and epithelialization.

Biography

Vishnu Sunil Jaikumar has completed his Masters in Veterinary Surgery and Radiology from College of Veterinary and Animal Sciences, Kerala Veterinary and Animal Sciences University, Mannuthy, Kerala, India. He is currently working as a Research Associate in Rajiv Gandhi Centre for Biotechnology, Kerala, India. Formerly, he has worked as a Veterinary Surgeon in an institution named Animal Birth Control for Dogs (ABCD) Kochi run by Kochi Municipal Corporation, the first government run facility solely for the purpose of control of stray dog population in Kerala, India.

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