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Cholecyst derived collagen as an extracellular matrix scaffold graft for repairing large corneal defect (ulcer) in dog: A report of three cases

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Contemporary Regenerative Medicine offers novel strategies for treating diseases through the use of cells and cell-seeded scaffolds of homogenic, allogenic or xenogenic origin. However, the use of xenogenic scaffolds as therapeutic graft is not new. This report documents three cases of large size corneal defects caused due to ulceration in Chinese Pug breed of dog. All the three animals had staphyloma as a complication of corneal ulcer. In all the cases, the corneal defect was surgically repaired by grafting with porcine Cholecyst Derived Scaffold (CDS). The conventional surgical technique was adequate for grafting and retention of the scaffold in position. All the dogs responded well to the biomaterial-graft. CDS offered advantages in being inexpensive and technically straight forward. In the present study, the depth and extend of the lesion got reduced and became shallow by the 7th day and complete healing by 14th day. The grafting, as supported by results of clinical examination and fluoresceine-dye testing, caused healing with minimal vascularization. However, the graft has resulted in corneal pigmentation. The mechanism of graft-assisted healing was not clear but the observations suggested that the CDS has potential for clinical use as a corneal repair graft.

Biography

S Anoop has completed his PhD in Canine Surgery with specialization in Ophthalmology from Kerala Veterinary and Animal Sciences University, India. He is presently working as an Assistant Professor of Surgery with Kerala Veterinary and Animal Sciences University. He has published more than 28 research papers in various journals and Principal Investigator of three research projects.

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