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Curcumin prolongs graft survival in mouse corneal allografts

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Curcumin is a dietary pigment from the plant *Curcuma longa* with known antioxidant, anti-neoplastic and anti-inflammatory effects. It is quite safe and has been ingested by people for centuries without significant reports of intoxication. Acute and sub-chronic toxicology studies showed limited adverse effects. The immunosuppressive and graft protective effects of curcumin were studied in mouse corneal transplant models. Curcumin significantly increased the mean survival time (MST) to 32 days as compared to 14 days among non treated controls. After transplantation there was significant increase in the level of chemokines and cytokines in corneal tissue, which was reduced by an IP treatment with 50 mg/kg curcumin for 7 days. On treatment with curcumin a decrease in the expression level of inducible Nitric Oxide Synthase (iNOS) mRNA and production of nitric oxide by the corneal tissue were also observed. This study for the first time demonstrates the effectiveness of curcumin as a novel immunosuppressant after corneal transplantation. This also reveals the protective effect of curcumin on graft survival.

Biography

Radhakrishna G Pillai has completed his PhD from the Department of Biochemistry, University of Kerala and Post-doctoral studies from School of Medicine, University of California, San Dieg, USA (2000-2006) and Imperial College London (2006-2007). Presently he is working as an Assistant Professor at the Department of Life Sciences, University of Kerala. He has published more than 30 papers in reputed journals and has been serving as an Editorial Board Member of various reputed journals.

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