



Nano Formulated Proanthocyanidins as an Effective Wound Healing Component

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Abstract:

Proanthocyanidins (PCs), a component of grape seed extract (GSE), has recently being used for the treatment of wounds. Proanthocyanidins, the principal component of GSE, has recently been identified as a main mediator of GSE medicinal properties. We present here an approach for manufacturing PCs/soluplus (SOLU) blended nanodispersion prepared by freeze drying technique to adequately enhance the stability and bioavailability of the PCs for wound repair. The PCs/SOLU nanodispersion (0.5, and 1.5 g) was incorporated into 10 g of a simple ointment base by melting and trituration to give two batches of the ointment formulation which could be easily applied topically to wounds. Excision wound measuring about 3 cm in depth was created on the Wistar rats placed in groups (n = 6) and the ointment applied topically on the wounded area which was measured daily until epithelialization and complete wound closure. Grape seed extract ointment and Povidone-iodine ointment (1 %) served as the control and standard treatments, respectively. PCs heals the wound by mobilising the fibroblasts in the wound site and inhibits the inflammatory response through decreased expression of monocyte. Immunological, macroscopical and histological evaluations have shown that the use of ointment containing PCs/SOLU nanodispersion enhances the cell adhesion and migration.

Biography:

R. Rajakumari studied at International and Inter-University Centre for Nanoscience and Nanotechnology, Mahatma Gandhi University, Kerala.

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