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Novel carbopol-based niosomal gel of *Annona muricata* leaves extract for skin cancer treatment: in vitro characterization and in vivo study

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Cancer is an unrestrained progression of abnormal cells which results from variations in DNA. In the war against cancer, nature plays a big role in treatment. *Annona muricata* (graviola) has been reported to have anticancer activity in breast, colorectal and lung, but it has not been investigated for melanoma skin cancer. In the present study, niosomal gel containing *Annona muricata* leaves extract was investigated for the treatment of skin cancer. Different formulations of niosomes was prepared using Span-60 and cholesterol. The vesicles were characterized for particle size, shape, entrapment efficiency, deformability and in vitro skin permeation. Optimized formulation was incorporated into 1% carbopol 940 gel and evaluated for efficacy in the treatment of skin cancer. Cytotoxic activity of the *Annona Muricata* extract was observed against skin cancer cell lines A4321 using 3-(4, 5-dimethylthiazol-2-yl)-2-5-diphenyl tetrazolium bromide) MTT assay. *Annona Muricata* leaves extract was also examined invivo for their anticancer activity, using different groups of rats and mice, using skin cancer cell lines A4321 versus normal cell line HEK 293 cells and known marketing anticancer drug Cisplatin or 5 FU.

Biography

Heyam Saad Ali, Ph-D –She is working in pharmaceutics department in Dubai Pharmacy College, UAE. Prof. contributed more than 70 articles to reputed international scientific journals and conferences, in different conventional, controlled and targeted drug delivery systems in pharmaceutical product development. She has been invited as speaker to numerous International conferences. Reviewer and member of editorial board of many international journals.

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