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Immunomodulating potential of *Argemone mexicana* through cytokine regulation

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Argemone mexicana is used in folk medicines to treat many diseases in India. The decoction of leaves is used for the treatment of malaria, ulcers and chronic skin diseases. It is reported earlier that sanguinarine and dihydrosanguinarine alkaloids are present in different parts of this plant. In the present study the leaves of *Argemone mexicana* were analyzed for the presence of these toxic compounds with HPTLC and GC-MS analysis and found negative for these compounds. These toxic compounds are probably present in seeds and flowers. Thus aqueous leaves extract was investigated to validate the effect of plant on chronic skin diseases by regulating the expression of cytokines. Wistar albino rats were fed with non toxic dose, 250 mg/kg body weight of *A. mexicana* extract for 20 days. Spleens were removed from control and *A. mexicana* treated animals. Splenocytes were cultured in presence of 10 µg/ml con-A for 48 hours. IL-2, IFN-gamma and IL-10 cytokines were quantitated in culture supernatant by ELISA technique. There was a significant increase in IL-10 expression as compare to control animals. In contrast IL-2 and IFN-γ were expressed in significantly low quantities when compared with control animals. It can be concluded from the study that effect of *A. mexicana* which is used to cure the allergic and hypersensitive type of immunological disorders of skin, like psoriasis, might be due to the stimulation of IL-10 immune suppressive cytokine, secreted by TH-2 subset of TH cells. While the cytokines secreted from TH-1 subsets, IL-2 & IFN-γ, which increase the immunological responses were down regulated.

Biography

Anjana Goel has completed her MSc in Biochemistry from Lucknow University and obtained her PhD from Central Drug Research Institute, India. She has worked as a Principal Investigator in DST sponsored project under WOS-A scheme. She is currently working as an Associate Professor in the Department of Biotechnology, Microbiology and Immunology. She has published more than 20 papers in reputed journals and presented more than 50 research papers in international and national conferences.

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