AN IMMUNOLOGICAL BASIS FOR THE USE OF VERNONIA CINEREA (L) LESS IN LINNAEA (COMPOSITAE) IN AYURVEDA

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The result of a field survey carried out by us indicates that throughout Sri Lanka, Vernonia cinerea is used mainly in inflammation related diseases such as hepatitis rheumatic and respiratory diseases.

The inhibition of the respiratory burst activity of activated Polymorphonuclear Leukocytes (PMNL) by plant extracts can be an useful in vitro test for the anti-inflammatory activity of plants in vivo[1].

An activity guided fractionation based on polarity yielded a phenolic fraction having the highest activity and highest yield. Separation of the compounds in the phenolic fraction using a combination adsorption chromatography, gel filtration and preparative TLC yielded the following highly active phenolic compounds. Luteolin, Luteolin - 7 - O glucoside, Chlorogenic acid, (3,4), (3,5), and (4,5) dicaffeoylquinic acid derivatives, and a monocaffeic acid ester.

The inhibition of respiratory burst activity of PMNL as well as the presence in Vernonia cinerea of caffeoylquinic acid derivatives is reported here for the first time.

Control experiments have shown that the inhibition is not due to cytotoxicity. Experiments are underway to test for inhibition of phagocytic activity, and the scavenging of reactive oxygen species.

The above results suggest that use of Vernonia cinerea in Ayurveda in the treatment of inflammation related diseases may have an immunological basis.

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References: 1. J.M. Simons, "Immunomodulation by Picrorhiza Kurroa" (1989) PhD thesis, University of Utrecht.