ISOLATION ANALYSIS AND STUDIES ON THE MECHANISM OF ACTION OF AN ANTI-COMPLEMENTARY POLYMERIC FRACTION FROM AN AQUEOUS EXTRACT OF VERNONIA CINEREA(L) LESS IN LINNAEA (ASTERACEAE).

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Vernonia cinerea is a well known medicinal plant in Sri Lanka used for the treatment of many inflammatory conditions.

An aqueous extract of the bark from a methanol extract of Vernonia cinerea was fractionated, guided by anti-complementary activity. Stron classical pathway (CP) anti-complementary activity was exhibited by a >300KD fraction. Its action on the alternative pathway (AP) was less marked. (IC50(CP) = 7 + 0.5 g/ml, IC50(AP) = 100+4 g/ml).

Immunomechanistic studies revealed that the inhibition was not caused by complement consumption, chelation of Ca^{2+} or by direct action on target erythrocytes. Preliminary studies with Cx depleted sera suggest probable sites of action are C2 and C3, C1 and C4 appear to be not affected. Further work to confirm these results are under way.

The protein dye binding method indicates a high protein content (88% egg albumin as a reference) in the fraction.

The fraction was acid hydrolysed and analysed for sugars and amino acids by HPLC. Further fractionation of the >300KD fraction by gel permeation using sepharose CL 2B and sephadex G200 yielded three bands, suggesting that it is a mixture of glycoproteins.

The presence of strong anti-complementary water soluble polymeric compounds in Vernonia cinerea in addition to the highly polymorphonuclear leukocytes inhibitory flavonoids and caffeoyl derivatives reported previously by us, further support the view that the clinical effects attributed to this plant by Ayurvedic practitioners may be explained by its influence on the immune system.

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