

An executive summary of the final report of work done on the minor research project of Ms. Bhavya D K entitled "BIOCHEMICAL AND PHYTOCHEMICAL INVESTIGATION OF OPHIORRHIZA RUGOSA AND ITS MEDICINAL PROPERTIES (ANTIOXIDANT, ANTIMICROBIAL, CYTOTOXICITY AND GENOTOXICITY PROPERTIES)" sanctioned by UGC, vide sanction letter No. MRP(S)-774/10-11/KAMA002/UGC-SWRO KAMA002 dated: 22nd Dec-2010 .

Phytochemical fractionation of *Ophiorrhiza rugosa* was done and the Chloroform-methanol (CMT) extract was collected. The presence of the phytochemical compounds such as Alkaloids, Steroid-alkaloids, Phenols, Flavonoids, Sapogenins and Antioxidants were detected by chemical method, Thin layer Chromatography and UV Spectrophotometric analysis. Induction of the liquid tumour in Swiss Albino mice by intraperitoneal transplantation of Ehrlich Ascite Carcinoma cells (EAC). Acute toxicity studies were done to study the toxic effect of the crude extract on Swiss Albino mice with increasing dosage of 50mg/kg body weight to 2000mg/kg body weight. Administration of the chloroform-methanol extract to tumour bearing mice at a regular interval of 24 hours. Observation and recording of the weight of the mice, mean survival time and percentage increase in life span to correlate the anti tumour effect. There was no increase in weight. But, there was a significant increase ($p > 0.1$) in the life span was seen in the Chloroform-methanol extract treated mice when compared to the control. The hematological parameters such as the RBC and WBC counts were done which indicated an increase in the increase in the WBC count of chloroform-methanol extract treated mice when compared to the control. The Histopathological studies of the liver showed necrosis in the control mice which determined the cytotoxic effect of the extract but showed absolutely no necrotic effect on the EAC induced mice injected with the chloroform-methanol extract. The *in vivo* studies of *Ophiorrhiza rugosa* showed the inhibitory effect on tumour growth in the EAC induced mice, thus exhibiting the anti cancer property. The inhibition of the zone formation with respect to anti microbial activity was henceforth observed with respect to the chloroform-methanol extract which confirmed the anti microbial property of medicinal plants. The presence of naturally occurring compounds, alkaloids are very significant since they have potent cytotoxic effect on EAC. Study of hematological and histological parameters also gave encouraging results supporting the effectiveness of the extracts. All these data prove that the phytochemicals present in the above mentioned source can be exploited for the development of a new therapeutic drug against cancer.

Date:

Name & Signature

(BHAVYA D K)

