Abstract Title: Cancer Chemo-prevention by *Prosopis cineraria*

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Abstract:

Cancer is clearly a worldwide problem and considered as second leading cause of death. In recent years many naturally occurring compounds from dietary and medicinal plants are reported as effective chemopreventive agents. *Prosopis cineraria* which is commonly known as Khejri widely distributed and used in Rajasthan, India, as folk medicine and food. In the present investigation it was found that leaf extract of *Prosopis cineraria* have highest antioxidant activity followed by flower, pod and stem bark extract as evidenced by low IC_{50} for DPPH and high percentage inhibition of DPPH and ABTS. Total phenolic, flavonoid and flavanol contents were found significantly higher in leaf followed by flower, pod and stem bark. Correlation between polyphenolic contents and antioxidant activity suggest that polyphenolic constituents may be responsible for observed antioxidant activity. *Prosopis cineraria* leaf extract significantly decreased the tumour incidence, tumour yield, tumour burden, tumour size, tumour weight and significant increased was observed in average latent period. Treatment of *Prosopis cineraria* leaf extract significantly increased the reduced glutathione, superoxide dismutase and catalase contents and significantly lowered the lipid peroxidation level in the skin of Swiss albino mice. Significant decrease in total chromosomal aberrations was observed in the form of decreased chromatid breaks, chromosome breaks, centric rings, dicentrics, exchanges, fragments, pulverized cells and polyploids with respect to total chromosomal aberrations in control group. Aberrant cells and aberrations per damage cell were also found to be decreased significantly after treatment of *Prosopis cineraria* leaf extract. In conclusion we can say that different parts (leaf, flower, pod and stem bark) of this plant has significant antioxidant activity and polyphenolic contents. Leaf extract of *Prosopis cineraria* has significant cancer chemo-preventive potential and anti-mutagenic activity.

Keywords: Anti-mutagenic, Cancer, Chemo-prevention, *Prosopis,*

Personal Biography:

Dr. Priyadarshi Meena has completed his PhD at the age of 30 years from University of Rajasthan, Jaipur India. He has worked as Senior Research Fellow at University of Rajasthan, Jaipur. He is currently working as Assistant Professor in Zoology at Centre for Advanced Studies, Department of Zoology, University of Rajasthan. He has published many papers and research articles in reputed journals. He is also member of American Association for Cancer Research (AACR), European Association for Cancer Research(EACR) and several other reputed research associations. He is working in the area of cancer chemo-prevention and cancer therapeutics and has been serving as an editorial board member of repute.



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