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Ayurveda-modern medicine interface: Study of anticancer potential of *Semecarpus anacardium*

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The prospective of ayurvedic philosophy and medicines needs to be recognized and converted into real life treatment prototype. This study describes an inclusive therapeutic approach used in ayurveda and modern medicine to treat cancer.

Semecarpus anacardium (SA) popularly known as '*Ardha Vaidya*' has been used in folklore for the treatment of a wide range of diseases. Extracts (hydro-alcoholic and oil) of SA were evaluated for their anticancer activity against *Ehrlich ascites* carcinoma (EAC) in nude mice. Extracts and standard drug (cyclophosphamide) at a dose of 20 mg/kg body weight were administered orally and continued for 10 consecutive days. The anticancer activity of SA was examined by determining the tumor area, tumor volume and tumor histology in experimental animal models. Both these extracts showed remarkable results in controlling the tumor in EAC bearing nude mice compared to the standard drug cyclophosphamide. Thus, the present study revealed that SA showed anticancer activity in the tested animal models.

The data from the study also supports the ayurvedic '*Rasayana*' concept of immune-modulation and healing. We need to interpret logic of ayurveda when, adopting modern science tools in drug development and validation and much research is required.

Rationalization of ayurvedic medicines using the latter approach may lead to an evidence based ayurveda - modern medicine interface. Also, in pursuit of finding better treatment solutions, we ought to step beyond the realm of only drugs and attempt validation of comprehensive specific treatment package as per classical ayurveda.

Biography

Shivprasad H. Majumdar has completed M. Pharm (Biopharmaceutics) in 2006 from Govt. College of Pharmacy, Karad, affiliated to Shivaji University, Kolhapur and Ph.D. in 2011 from NMIMS, Mumbai. He is working as assistant Professor in NMIMS and awarded as Best Faculty of 2010-11. He has published more than 10 papers in reputed journals and presented over 25 papers at various international and national conferences. He won best presentation awards in different events like PharmaGlow's Power Point Presentation Competition-02 arranged by Pharmainfo.net, Canada, National Level Workshop on "Coating Technology of Solid Dosage Forms" organized by Gurunanak College of Pharmacy, Nagpur, etc.

Effect of *Gymnema sylvestre* on pharmacokinetics and pharmacodynamics of metformin in diabetic rats

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Diabetes mellitus is a chronic metabolic disorder characterised by raise in blood glucose level. Many physicians prescribe combined pharmacological therapy to obtain adequate blood glucose control which includes combination of thiazolidinediones with sulphonyl ureas or biguanides produce more hypoglycaemia than when given alone. Apart from combining two or more hypoglcaemic drugs in treatment of diabetes, even physicians recommended use of antidiabetic herbs along with oral hypoglycaemics. *Gymnema sylvestre* of Asclepiadaceae family primarily has clinical application as an antidiabetic agent. Metformin, an oral antidiabetic drug is the first-line drug of choice for the treatment of type 2 diabetes. This study has been proposed to evaluate the effect of *Gymnema sylvestre* on pharmacokinetics and pharmacodynamics of metformin in diabetic rats. Administration of both gymnema extract and metformin to diabetic rats orally causes decrease in the bioavailability of metformin significantly ($p<0.01$) which is proportional to dose of *Gymnema sylvestre*. When given in combination, there is beneficial glucose level reduction compared to individually treated groups. Results have indicated the negative effect of *Gymnema sylvestre* on pharmacokinetics but positive effect on pharmacodynamics of metformin.

Keywords: *Gymnema sylvestre*, metformin, antidiabetic herbs, and hypoglycaemia

Biography

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