

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

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Diabetes mellitus is a chronic metabolic disorder characterized 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 hypoglycaemic drugs in treatment of diabetes, some patients even physicians recommended use of antidiabetic herbs along with oral hypoglycaemics. *Gymnema sylvestre* of asclipideaceae family primary 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.

Key Words: *Gymnema sylvestre*, Metformin, Antidiabetic herbs, Hypoglycaemia

Biography

Shravan kumar dholi has completed M.Pharm., and is pursuing Ph.D. in JNTU. He has published more than 10 papers in national and international journals and presented more than 6 papers in national and international conferences.

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