

Antihypertensive effect of herbal medicine gokshur siddha ghrita (GSG) in a preeclampsia rat model

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Objective: Oxidative stress is known to play a key role in determining pregnancy outcome and also influence health and disease in adult life. Our earlier study in women with preeclampsia has demonstrated reduced antioxidants and increased oxidative stress which was associated with reduced baby weight. Herbal formulations are reported to be rich in antioxidants. The present study therefore examines the efficacy of gokshur (*Tribulus terrestris*) formulation on oxidative stress, hypertension and pregnancy outcome using a preeclampsia rat model.

Methods: Pregnant Wistar albino rats were divided into 3 groups (n=6 in each group) i.e. 1) LN (induced with N ω -nitro-L-arginine methyl ester (L-name), 2) LN+GSG (L-name and GSG) and 3) control. The weekly feed intake, weight gain, blood pressures of dams; litter size and litter weights during pregnancy and lactation were recorded. Dam plasma oxidative stress marker (MDA) levels were analyzed by using Oxis kit.

Results: The pregnancy weight gain was similar in all groups. In contrast, the average pup weight was lower (p<0.05) in LN+GSG as compared to both controls and LN groups. Systolic and diastolic blood pressures were increased (p<0.01) by L-name induction while LN+GSG group showed a significant reduction (p<0.01) in both systolic and diastolic blood pressures. Similarly, dam's MDA levels were increased in LN group while GSG treatment reduced MDA levels. Total feed intake was significantly reduced in LN+GSG group as compared to other groups. Further, pup limb defects were two fold higher (10%) in LN+GSG group as compared to LN group (5%).

Conclusion: This study demonstrates GSG may possibly be useful in reducing hypertension although future studies need to be undertaken at various doses to evaluate its effects on pregnancy outcome. The detailed mechanistic aspects leading to reduced hypertension also need to be explored.

Biography

Anitha Kilari is an Ayurved professional and pursuing Ph.D. in Dravyagun Vignan. She has been working as a Scientist at Interactive Research School of Health Affairs, Bharati Vidyapeeth University, Pune for the past 10 years. She has been working on the nutritional and biochemical variations in pregnancy complications like preeclampsia and preterm birth. She has 12 international publications in reputed journals. She is interested in exploring the herbal interventions to ameliorate symptoms of preeclampsia and improve gestation and birth outcome.

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