

2nd International Conference and Exhibition on Pharmacognosy, Phytochemistry & Natural Products

August 25-27, 2014 DoubleTree by Hilton Beijing, China

Explore testosterone lowering potential of *Glycyrrhiza glabra* root extract in hyperandrogenic female rats induced with polycystic ovaries

Narurkar Mitali Dinesh, Patil Swati S and Vaidya Rama A
Prin. K. M. Kundnani College of Pharmacy, India

Objective: Polycystic ovarian syndrome (PCOS) is a complex endocrine disorder characterised by high testosterone levels, chronic anovulation & metabolic disturbances. This study was conducted to assess testosterone lowering potential of *Glycyrrhiza glabra* (Liquorice) in hyperandrogenised female Sprague Dawley rats induced with PCOS. The study also included Curcumin extract & a polyherbal formulation. Finasteride was used as the standard drug.

Materials & method: 30 female Sprague Dawley rats were divided into 6 groups. Apart from normal group, animals in Group II to VI received testosterone injections (Aquaviron 25 mg/ml) intramuscularly to induce hyperandrogenism. After excessive testosterone levels were confirmed, its vaginal cytology was studied to confirm PCOS-like condition. Thereafter, the animals received herbal extracts & standard drug for one month after which they were sacrificed & their ovaries were removed for histopathological evaluation. Blood tests were performed to evaluate serum testosterone (Tt), glucose (Glc) and HDL-Cholesterol (HDL-Ch) levels.

Results: Serum Tt levels were significantly reduced in Liquorice Group ($p < 0.01$) & serum glucose was acutely increased ($p < 0.001$) which was comparable to Standard group. Curcumin & Polyherbal groups showed non-significant reduction in Tt levels but significant reduction in Glc & HDL-Ch levels ($p < 0.001$). Histopathology reports showed least follicular cysts & lesions being found in Liquorice group.

Conclusion: *Glycyrrhiza glabra* has anti-androgenic & hyperglycemic potential. Also it may possess activity at ovarian levels. Curcumin and the polyherbal formulation were found to have moderate anti-androgenic activities but showed considerable potential in balancing metabolic parameters.

mita9789@gmail.com