Toxicological and Hormonal Profile of Female Wistar Rats Treated With a Polyherbal Formulation

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Background

In the present study, toxicological and hormonal profile of female wistar rats treated with a polyherbal formulation, commonly used in the treatment of female infertility in South-Eastern, Nigeria, was investigated.

Methods

Acute oral toxicity (LD50), sub-acute, hematological and biochemical studies were evaluated in experimental animals of same estrus stage, after a 30-day treatment with 120 - 360 mg/kg of the herbal formulation. Fertility index, no of pups per litter, pups' body weight, viability and lactation index, gestation length and malformations were investigated and serum samples assayed for female hormonal markers.

Results

The drug caused no mortality up to 5000 mg/kg oral treatment. Results of sub-acute toxicity show no significant changes in biochemical and hematological parameters at the 120mg/kg dose. However, at higher doses, mild increase ($P > 0.05$) in the level of alkaline phosphatase, aspartate transaminase and neutrophil count were seen; values of creatinine and urea at 360mg/kg were also significantly elevated ($p < 0.05$) when compared to the control group. All fertility parameters examined were normal. There were significant increase ($p < 0.05$) in the serum concentration of Follicle stimulating hormone, Estradiol and Luteinizing hormones in the treated animals, while Prolactin levels were markedly reduced.

Conclusion

The formulation has shown some fertility boosting property and may have potentials as an ovulation inducing agent. The herbal formulation seems safe in the animals studied, however, further studies on the composition, long - term safety and toxicological profile of the formulation should be carried out.