

The Histological Changes Induced by Indian Ginseng in Kidneys, Livers and Brains of Rats

**Original
Article**

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ABSTRACT

Introduction: Herbal preparations are not adequately regulated. They are not subjected to the same production testing as chemical pharmaceuticals, and there are no standards like those found in medical drugs. As a result, utilizing them without constraints or circumstances may result in undesirable or harmful effects on multiple organs.

Aim of the Work: This study was carried out to look into some of the negative consequences of utilizing Ashwagandha (Indian ginseng) and its potential effects on the liver, kidneys, and brain.

Materials and Methods: 16 adult rats were randomly divided into two groups of eight each: the control group, which received distilled water daily with an injection volume of 1.0 ml/kg orally for 30 days, and the Indian ginseng-treated group, which received Indian ginseng root extract. Orally every day for 30 days at a dose of (200 mg/kg) diluted in (1.0 cc of distilled water). After the treatment time, the animals were sedated, and their liver, kidney, and brain organs were removed to study the histological alterations in those tissues.

Results: The treated group's liver sections revealed diffuse vacuolar degeneration of hepatocytes, inflammatory cell infiltration in the portal area, central vein congestion and hemosiderin staining, and congestion and dilatation of the central vein and portal vein with sinusoidal dilatation. While kidney slices from the same cohort revealed glomerular shrinkage, Bowman's space dilatation, localized inflammatory cell infiltration, and vascular congestion. Finally, portions of the treated group's brains revealed vacuolization edema and perivascular edema around neurons and glial cells.

Conclusion: We concluded that ashwagandha (ginseng) has a negative effect on various organs in rats at the concentration level utilized in the study.