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Physiological and histological effects of apigenin and luteolin on Cytarabine injected rats

Abstract:

The present study was undertaken to study the effect of apigenin and luteolin on physiological and histological changes in rats treated with cytarabine drugs. Thirty-five albino healthy male adult rats with equal age weighing 250 -300g were enrolled. Rats were randomly divided into seven groups according to the treatment. Group "1" was treated with normal saline and served as the control group. Groups "2,3 and 4" received cytarabine, apigenin, and luteolin respectively, while groups 5, 6, and 7 received a combination of "apigenin + cytarabine", "luteolin + cytarabine", and "apigenin + luteolin + cytarabine", respectively. After one week of treatment, all seven groups of rats were sacrificed for histological finding, and blood samples were collected from each rat for biochemical parameters analysis. The results of this study showed that cytarabine increased the activity of GPT, GOT, and cholesterol levels in rats after one week of intraperitoneal injection in comparison to the control. There was no significant difference in GPT and GOT when apigenin and luteolin were administrated orally compared to the control group. When apigenin and luteolin are combined with cytarabine, they have a protective effect on leakage of liver enzymes GPT and GOT in serum. Apigenin and luteolin histologically protect liver cells from cytarabine damage when administered alone. These findings conclude that apigenin and luteolin have a protective effect on cytarabine side effects on the liver and its function in rats.