

The potential protective effect of propolis on experimentally induced hepatitis in adult male albino rats. Histological and immunohistochemical studyFaiza Abdul Razzak Mahboub¹, Abeer M El-Mahalaway² and Amal A Selim¹¹Umm Al-Qura University, Saudi Arabia²Benha University, Egypt

In Egypt, liver diseases are one of the most prominent killers especially hepatitis virus infection, fibrosis and cirrhosis. Hepatitis has a serious health effects and alter the functions of the liver. D-galactosamine (D-GalN) and lipopolysaccharide (LPS) induced hepatitis in rats closely resemble human viral hepatitis. Propolis is honey bee product with a wide range of beneficial therapeutic effects. To evaluate the possible protective effect of propolis on experimentally induced hepatitis in adult male albino rats. Forty adult male rats included and divided equally into 4 groups (10 rats each). group I (control group), group II (Propolis group): The rats received daily oral dose of the propolis (200 mg/Kg) by gastric tube for 2 weeks, group III (Hepatitis model group): The rats received single intraperitoneally injection of D-GalN and LPS (300 mg/kg and 30 µg/kg) 18 hours before the end of experiment, group IV (Propolis and hepatitis model group): The rats received daily oral dose of propolis for 2 weeks and D-GalN and LPS 18 hours before the end of experiment. Liver specimens were taken and processed for histological and immunohistochemical study. Group III showed signs of degeneration and necrosis as some swollen hepatocytes had finely granular cytoplasm, other hepatocytes had small hyperchromatic or karyolytic nuclei. Dilated congested, proliferation of endothelial cells of central vein was seen and its wall showed inflammatory cells. There was apparent increase of collagen fibers, significant increase of anti-proliferating cell nuclear antigen (PCNA) positive nuclei among hepatocytes and strong immunoreaction for anti-Transforming growth factor (TGF-β1) in the wall of portal vein. Group IV showed improvement of histological and immunohistochemical changes described before. Propolis has potential protective effect against D-GalN/LPS induced hepatotoxicity in rats as it has antioxidant, anti-inflammatory and ant-apoptotic activities.

Biography

Faiza Abdul Razzak Mahboub is an Assistant Professor of Histology and Histopathology in the Faculty of Applied Science, Department of Biology at the Umm Al-Qura University. She conducts her researches related to Alternative Medicine and Cancer Research. She has done her Master's degree entitled: Histological and histochemical effect of anticancer drug (cyclophosphamide) on the ovary of albino mice and her PhD degree entitled: The effect of green tea on the ovarian cancer cells (*in vitro* and *in vivo* studies). She is also conducting numerous researches related to alternative modalities in cancer and other disease.

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