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Histopathological and biochemical investigations of protective role of honey in rats with experimental aflatoxicosis

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Aim: The aim of this study was to investigate the antioxidant properties and protective role of honey, considered a part of traditional medicine, against carcinogen chemical aflatoxin (AF) exposure in rats, which were evaluated by histopathological changes in liver and kidney, measuring level of serum marker enzymes, antioxidant defense systems and lipid peroxidation content in liver, erythrocyte, brain, kidney, heart and lungs.

Methods: For this purpose, a total of 18 healthy Sprague-Dawley rats were randomly allocated into three experimental groups: A (Control), B (AF-treated) and C (AF+honey-treated). While rats in group A were fed with a diet without AF, B, and C groups received 25 µg of AF/rat/day, where C group additionally received 1 mL/kg of honey by gavage for 90 days.

Results: At the end of the 90-day experimental period, we found that the honey supplementation decreased the lipid peroxidation and the levels of enzyme associated with liver damage, increased enzymatic and non-enzymatic antioxidants in the AF+honey-treated rats. Hepatoprotective and nephroprotective effects of honey is further substantiated by showing almost normal histological architecture in AF+honey-treated group, compared to degenerative changes in the liver and kidney of AF-treated rats. Additionally, honey supplementation ameliorated antioxidant defense systems and lipid peroxidation content in other tissues of AF+honey-treated rats.

Conclusion: In conclusion, the present study indicates that honey has a hepatoprotective and nephroprotective effect in rats with experimental aflatoxicosis due to its antioxidant activity.

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Serous cystadenoma and fibrothecoma: A rare combination in collision tumor of ovary with pseudo-Meigs syndrome

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Collision tumors are defined as a coexistence of two adjacent but histologically distinct tumors without admixture in the same tissue or organ. They have been reported in various organs but collision tumors involving ovaries are extremely rare. The most common histological combination of collision tumor in the ovary is coexistence of teratoma with mucinous tumors. Very few reports of benign collision tumors involving ovaries have been reported in world literature. In 1937, Meigs described cases of pleural effusion, ascitis and ovarian fibromas and named it Meigs syndrome. In 1954, he limited the syndrome to cases where the removal of tumor cures the diseases. Pseudo-Meigs is a variant, not possessing the original tumor cell types described by Meigs. We report a very unusual combination of fibrothecoma and serous cystadenoma with pseudo-Meigs syndrome. A 63-year old menopausal woman presented with abdominal distention ultrasonography and computed tomography scan revealed large cystic lesion with well-delineated solid area in it. Minimal ascitis was noted. Malignant neoplasm of ovary was suspected. Cytology of ascitic fluid did not showed malignant cells. Carcinoma antigen (CA)-125 was mildly elevated (0.42 IU/ml). Left ovary grossly showed a large uniloculated thin walled cyst with smooth surface and congested vessels. At one end of the cyst, well-demarcated solid homogenous yellowish white mass was seen. Microscopy of multiple sections from solid area revealed benign fibrothecoma. Multiple sections from the cyst wall revealed serous cystadenoma. Final diagnosis of benign ovarian collision tumor of fibrothecoma and serous cystadenoma with pseudo-Meigs syndrome was made.

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