Paracetamol, also known as acetaminophen, is one of the most commonly used drugs as an analgesic and anti-inflammatory. Paracetamol contains a phenol ring and an acetyl group raising the possibility that it might have sex steroid antagonist properties. A small proportion of the drug is metabolized into a reactive metabolite, which is normally detoxified by glutathione. Over dose might cause glutathione depletion and oxidative stress. Honey is considered as an antioxidant because of the presence of ascorbic acid, flavonoid and L-tocopherol. This work was carried out to investigate the morphological modifications that would occur in the pituitary gland of male rats in response to the administration of acetaminophen in therapeutic dose for one month duration and a possible protective effect of honey when given concomitantly with paracetamol. Thirty adult male albino rats were used. The animals were divided into three groups. Group I served as a control. Group II were given paracetamol orally in a dose of 800 mg/kg/day for one month. Group III were given paracetamol in a similar dose and duration concomitantly with honey in a dose of 2.5 gm/kg/day orally. All the animals were sacrificed and the pituitary gland was dissected out and processed for general histological and ultrastructural examination of the pars distalis. The pars distalis of group II revealed variable structural changes in the gonadotrophs and somatotrophs. In group III the changes extended to involve the thyrotrophs. The most characteristic change was the excessive dilatation in ER. It is concluded that paracetamol influences the structure of pars distalis in a selective form. Honey modifies paracetamol effect, possibly via its ascorbic acid contents.

Keywords:

Paracetamol, Pituitary, Male, Structure, Histology.

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