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HISTOPATHOLOGICAL STUDY ON THE TOXICITY EFFECTS OF SORAFENIB (MULTIKINASE INHIBITOR) ON THE ENDOCRINE AND EXOCRINE PANCREAS IN MALE ALBINO RATS

Eman Mohammed Mohammed Abdella *

Zoology Dept., Faculty of Science, Fayoum University, Egypt

Introduction and aim of the work: Sorafenib (Nexavar) is an oral inhibitor of multikinase proteins approved in 2005 for treatment of metastatic renal cell and advanced hepatocellular carcinoma. It causes many metabolic side effects, including diarrhea, hypertension, hand-foot skin reaction, and fatigue. This study aims to detect the histopathological changes of the rat pancreas under acute and chronic sorafenib treatment. **Methods:** The rats were divided into 3 groups. • Group 1: served as control (rats were orally administrated with ml of normal saline for a month. • Group 2: (acute group) Rats of this group were treated with the multikinase inhibitor sorafenib (60 mg/kg body weight/day) for 15 days by gavage. • Group 3: (chronic group) Rats of this group were treated with the multikinase inhibitor sorafenib (60 mg/kg body weight/day) for 30 days by gavage. Animals were sacrificed and specimens from the pancreatic tails were processed for histopathological, histochemical; by estimation of total carbohydrates, total mucine & collagen fibers and immunohistochemical studies by estimation of Anti-insulin antibody. **Results:** In treated animals, there were histopathological and histochemical alterations Immunohistochemical staining with anti-insulin antibody showed strong staining of the islets of treated animals with highly significant (($P < 0.05$)) increase than control rats. **Conclusion:** Sorafenib treatments caused pathological and toxic changes in the pancreas which need to careful using of this drug and may use of natural antioxidants will be useful.