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الدور الوقائي المحتمل لمضادات الأكسدة (السلينيوم، فيتامين هـ) في تقليل آثار التدخين على خصى وبنكرياس الجرذان الأبيض
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- Abstract** : The main objective of the present work was to study the possible role of some antioxidant (Vitamin E "Vit E" and Selenium "Se") in protecting the testicular and pancreatic tissue from degenerative changes evoked by exposure to cigarette smoking. 40 adult male albino rats with average weight 130-150 gm were used . The animals were divided into 4 groups: a control group, a group given Vit E (100mg/Kgm) in olive oil and Selenium (as Na₂ SeO₃ , Se) (2mg/Kgm) in aqueous form orally via intragastric tube , the third group was exposed to cigarette smoking 3 to 5 weeks , the fourth group was supplemented with Vit E and Se in the same dose mentioned above during exposure period to cigarette smoking. At the end of each experimental period , animals were killed by cervical decapitation , the weight of the animals was recorded weekly . Paraffin sections of testis and pancreas were prepared , and stained with Haematoxylin and Eosin , Massons trichrome and Periodic acid Schiff technique for histological , histochemical and morphometric studies . The present work showed that exposure to cigarette smoking resulted in a decrease in body weight of animals compared to controls. An increase of body weight was observed in animals supplemented with antioxidants while exposed to cigarette smoking . Animals given antioxidants alone did not show any differences in body weight compared to controls . Histological changes of testicular tissue, showed thickening of testicular capsule, widening of intertubular spaces with a decrease in interstitial tissue elements vascular congestion, edema and thickened basement membrane of seminiferous tubules . Some of the seminiferous tubules showed distorted germinal epithelial cell layers, vacuolation and abnormal spermatids with ring shaped arrangement of peripheral chromatin . Giant multinucleated cells were also observed in some tubules . In some specimens there was an increase in the amount of degenerated tubules. Regarding pancreas, the exocrine part showed distorted acinar component, the acinar cells showed apical accumulation of zymogen granules. Some cells showed vacuolation. The inter acinar connective tissue showed vascular dilatation, congestion, and edema. The pancreatic interlobar ducts appeared dilated and full of secretions . The present results showed that giving Vit E and Se as antioxidant substances to cigarette smoking exposed animals , resulted in a decrease in the above histological changes; the testicular and pancreatic affected tissues seemed to be more or less similar to controls . In conclusion , The present study showed that although using of antioxidant cannot completely prevent the drastic effects of cigarette smoking on living tissue , it prevented to some extent the degenerative changes observed in testicular and pancreatic tissues. Stopping smoking is the only solution for such problems
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