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**Document Title** : *Effect of streptozotcin on the physiology and structure of the pancreatic islets of langerhans in the domestic pigeon*  
تأثير الستريبتوزوتوسين على وظائف وتركيب جزر لانجرهانز البنكرياسية في الحمامة المنزلية

**Document Language** : Arabic

**Abstract** : The effect of streptozotocin ( STZ ) or cobaltous chloride ( CoCh ) treatment on some morphological and metabolic aspects were studied in the adult male pigeon. The ultrastructure of nonnal pancreas revealed 3 type\_&, of cells ( A- , B- , D- ) in pigeon islets of Langerhans . Injection of STZ (150 mg /kg B.W. for 3 days, i .v.) caused lobulation of islets, overlapping of cells, loss of affinity of nucleoli to basic stains and focal position. Degeneration of RER and coalescent zymogen granules appeared in acinar cells of CoCh -treated birds. The B- cell cytotoxin, STZ , caused sib7J1 ificant hyperglycemia on day 2 , 4 , & 8 after treatment. On day 8 post-treatment, liver & muscle glycogen; total plasma, liver & muscle proteins decreased significantly compared to controls, while total lipids increased in plasma and decreased in liver & muscle. These results suggest a considerable role for insulin in controlling some metabolic aspects in the pigeon. The short-term ( I , 2 , 4 & 8 hr ) and long-term ( 4 , 8 & 12 days) effects of a single i .v. injection of CoCh ( 40 mg / kg B .W .) were studied. Progressive hyperglycemia was observed in the short-tenn experiments concomittallt with a significant time-dependent decrease in liver & muscle glycogen, in total plasma & liver proteins. T otallipids increased significantly in plasma after 4 hr. but decreased in liver & I muscle compared to controls. These hyperglycemia & glycogenolysis observed on day 4 were normalized by day 12 , whereas total proteins were unaffected on days 4 , 8 & 12 .,Thus, the action of CoCh is complex and perhaps not A-cell specific as previously claimed.

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