
Effect of vitamin e administration in artificially induced diabetic rat

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The present study began with 90 adult albino rats of both sexes (60 females and 30 males). The animals were divided into 4 major groups, the first group served as control group comprising 36 rats of both sexes and 3 experimental groups each comprised 18 rats of both sexes. The control group was further divided into 2 subgroups each containing 18 rats as follows. -Ve control animals received solvents of both diabetogenic drug and vitamin E equivalent to the volume used in experimental animals throughout the study. The second subgroup (+ ye control animals) received single dose of 40 mg/kg of streptozotocin and subcutaneous injection with olive oil solvent of vit. E The second group (experimental): both sexes were injected intraperitoneally with freshly prepared aqueous solution of streptozotocin (diabetogenic) in a single dose of 40 mg/kg body weight one week before mating. Animals of the third group received vitamin E in a dose of 400 mg/day s.c. 2 weeks before artificially induced diabetes with streptozotocin. The fourth group comprised animals receiving streptozotocin drug one week before mating and vitamin E injection one week after pregnancy and continued until the day of delivery. The offspring of each group were examined for diabetes after 2(a) and 4 (b) weeks the latter were subdivided into subgroup b 1 (diabetic), b2 (non diabetic) according to the presence of diabetes. For each animal, biochemical investigation (blood glucose concentration measurement), histological study (morphological), quantitative study (statistical analysis of the volumetric data according to t distribution test), and finally chromosomal study (direct metaphase from bone marrow cells) were done. The results showed that: 1. parent animals (adult) of all groups except GIA (- ye control) showed an increased blood glucose level (diabetic) due to streptozotocin injection. • At the age of 2 weeks offspring of diabetic mothers there was hypoglycemia. • In 4 weeks offspring of GIBb, Glib GIIIb and GIVb definite hyperglycemia (blood glucose level < 200mg/dl) was present, and was significant (p