

Genistein Treatment Confers Protection Against Gliopathy & Vasculopathy of the Diabetic Retina in Rats

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Abstract : Background: Retinopathy remains an important complication of diabetes. Aim of work: This work was carried out to evaluate the protective effects of genistein from diabetic retinopathy in rat. Material and Methods: Fifteen adult male albino rats were divided into two groups; Group I: control (n=5) and Group II: streptozotocin induced diabetic group (n=10), which is equally divided into two subgroups; IIa (diabetic vehicle control) and IIb (diabetic genistein-treated). Specimens were taken from the retina 12 weeks post induction, processed and examined using light, immunohistochemical, ultrastructural techniques. Blood samples were assayed for the levels of glucose. Results: In comparison with the diabetic non-treated group, the histological changes in macro and microglial glial cells reactivity and retinal blood capillaries were improved in genistein-treated groups. In addition, GFAP and iNOS expressions in the retina and the blood glucose level were reduced. Conclusion: Genistein ameliorates the histological changes of diabetic retinopathy reaching healing features, which resemble that of a normal retina.

Keywords : diabetic retinopathy, genistein, glia, capillaries.

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