

## Effect of genistein on caveolin-1 expression in rats receiving high dose fructose diet

H. Kubra Elcioglu, Caglar Guvel and Levent Kabasakal

Marmara university, Turkey

Our aim in this study was to investigate the role of caveolin-1 on functional changes caused by insulin resistance in aorta and corpus cavernosum tissues of fructose diabetic rats, and to investigate whether genistein or insulin treatment have any protective effect on these parameters.

For this purpose male Sprague-Dawley rats were divided into 2 groups; Control and fructose groups. Control group consisted of no treatment group and genistein (G) groups. To induce diabetes 10% fructose was administered in drinking water for 8 weeks and diabetic animals were divided into 4 subgroups: a) Genistein group (FG) (n=6) treated with genistein (1 mg/kg/day), b) Insulin group (FI) (n=6) treated with 6 U/kg/day insulin c) group (n=6), insulin and genistein were administered in combination for 8 weeks; and D) no treatment diabetic group (n=6). At the end of the experimental period the animals were decapitated and corpus cavernosum tissues samples were collected, they were used for in vitro studies or stored in liquid nitrogen for Western-blot analysis and histological investigations.

Endothelium dependent relaxation and contraction responses in the corpus cavernosum tissues were significantly attenuated in the diabetic group. Relaxation and contractile responses were restored after treatment with insulin, genistein or insulin and genistein in combination. Caveolin-1 expression that was increased in diabetic animals was also decreased after all treatment, suggesting that the deterioration of the vascular responses in diabetic animals is related to an increase in Caveolin-1 expression.

### Biography

H. Kubra Elcioglu has completed his Ph.D. at the age of 31 years from Marmara University and postdoctoral studies from Marmara University School of Pharmacy, Department of Pharmacology. She is the associated professor in Pharmacology and also Vice Dean of Marmara University School of Pharmacy. She has published more than 13 papers in reputed journals. She is the member of Turkish Pharmacological and Clinical Pharmacy Societies.

kubra.elcioglu@marmara.edu.tr