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## High-fructose diet induces testicular degeneration in rat

The growing worldwide epidemic of metabolic syndrome may be linked to an increased consumption of fructose. High-fructose diet is well documented to induce metabolic disturbances in animal and human studies. The effect of high-fructose diet on male reproductive system has been poorly documented. Therefore, herein, we investigated the effects of dietary fructose on testicular function regulators IGF-1R and c-kit, blood-testis barrier proteins claudin-1 and pan-cadherin in the testis of rats. Fructose was given to the rats as 20% solution in drinking water for 15 weeks. Histological examination with hematoxylin-eosin staining showed that dietary fructose caused degeneration in seminiferous tubules. Also, testicular concentration of testosterone was decreased. The expression level of IGF-1R protein measured by both Western blotting and immunohistochemical staining was increased in testicular tissue of fructose feeding rats. Our immunostaining study also demonstrated that expression intensities of c-kit, claudin-1 and pan-cadherin were comparable in seminiferous tubules of control and fructose-treated rats. In conclusion, high-fructose ingestion induces a testicular degeneration together with increased expression level of IGF-1R in testicular tissue of rats, thus showing a compensatory defense mechanism against harmful challenge.

## Biography

Onur Gokhan Yildirim is currently pursuing his PhD in the Department of Pharmacology, Faculty of Pharmacy at Gazi University. His research subjects focus on the effects of fructose consumption-induced metabolic syndrome and its modulation of dietary factors. He has published three SCI papers in related subject.

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