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The effects of thyrotoxicosis on gallstone formation: An experimental study in rabbits

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The etiopathogenesis of gallstone formation is well known, but only a few studies have investigated the effects of thyrotoxicosis on gallstone formation. In this study, we investigated the contribution of thyrotoxicosis to gallstone formation in rabbits. Forty-four New Zealand rabbits were used. Rabbits were divided into six groups, with each group receiving a different diet. At the end of seven weeks, all rabbits were sacrificed, blood was collected for analysis and cholecystectomy was performed. Gallbladder mucosal inflammation was examined using samples from the gallbladder mucosa. Serum levels of both free triiodothyronine and thyroxine (FT3 and FT4) were statistically higher in rabbits receiving thyroid hormone *($p<0.001$)*. The bile cholesterol saturation index (CSI) of the group receiving only thyroxine hormone was statistically higher than the control group *($p=0.014$)*. The rabbit group receiving a lithogenic diet and thyroxine hormone had statistically higher myeloperoxidase and fibrinogen levels *($p <0.001$* and *$p <0.001$)*. Thyrotoxicosis promotes an increase in gallstone formation risk as a result of an increased CSI and gallbladder mucosal inflammation.

Biography

Yusuf Gunay graduated from Ankara University medical school in 1999 and then completed a general surgery residency at Ankara Numune Hospital, Ankara, Turkey. He then completed his first abdominal transplant surgery fellowship at The Ohio State University in 2010 and followed by MIS fellowship at the University of Iowa in 2011 and the second Abdominal Transplant surgery fellowship at University of Pittsburgh Medical Center in June 2017. Currently, he is an assistant professor at Bulent Ecevit University, Zonguldak, Turkey. He has many publications.

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