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## Investigation of relationship between expressions of TGF- $\beta$ family members, GATAs, IGFs and apoptosis in bovine ovarian cysts

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The mechanism of bovine ovarian cysts is not completely understood. Local expression of proteins or factors including transforming growth factor family members (TGF- $\beta$ ), growth factors and transcription factors may play a central role as intra-ovarian regulator of folliculogenesis in mammals. The objective of the study was to reveal of relationship between role of TGF- $\beta$  family members (AMH, GDF-9, BMP-6, Inhibin- $\alpha$ ), transcription factors (GATA-4, GATA-6) and growth factors (IGF-I) expressions and apoptosis in bovine abattoir-derived cystic ovarian follicles Data on the preovulatory follicle was compared as control. Immunohistochemical staining was mildly positive for IGF-1, inhibin- $\alpha$  and GATA-4 in thecal cells. Staining for AMH, GDF-9, BMP-6 and GATA-6 was insufficient for their quantitation and oocytes could not be stained for any of the proteins tested in the type-2 cystic follicles. All the proteins were moderately expressed in granulosa cells in preovulatory follicles. TUNEL positivities were dense in generally epithelial cells and sometimes theca cells of cystic cases. In conclusion, especially, the deficiency of BMP-6 and GATA-6 may play important roles in disruption of growing follicles and their transformation into cysts.

### Biography

Mehmet Rifat Vural has been working as academic staff in Department of Obstetrics and Gynecology, Faculty of Veterinary Medicine, Ankara University since 1985. He is interested in the physiology and pathology of transition and postpartum period in dairy cattle. Dr. Rifat Vural research interest is follicular micro-environment in bovine cystic ovarian follicles. He had approximately 85 articles in international (SCI-Index) and domestic scientific journals and also has three chapters in professional books. Seven PhD dissertations and two master thesis were completed by way of his supervisor and he took part in 8 research projects as coordinator and researcher. Dr. Vural was the Dean of Postgraduate School, Health Sciences, Ankara University between 2004 -2007.

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