ROLE OF ADIPONECTIN IN FEMALE REPRODUCTION

Summary

Adipose tissue except its primary function – energy storage – exhibits endocrine activity. It is the place of production of bioactive compounds named adipokines. One of these is adiponectin. This hormone is a protein with a mass of 30 kDa composed of four domains. *APM1* – gene of adiponectin is located in the long arm of third chromosome. Adiponectin is present in blood in the form of three multimeric fractions. Gene expression and secretion of adiponectin occurs in many tissues in organism, including muscle, liver, heart, brain and reproductive tissues. Adiponectin acts *via* two receptors – AdipoR1 and AdipoR2, which have different organ location and mode of action. Adiponectin plays an important role in regulating metabolism of glucose and fatty acids and affects the cardiovascular function. Recent studies show that adiponectin is an important factor in female reproduction. Presence of adiponectin and its receptors was demonstrated in reproductive tissues, such as ovary. The hormone is involved in ovarian follicles steroidogenesis and proliferation, as well as influences the activity of reproductive endocrine axis: hypothalamus-pituarity-ovary.