ANGIOGENIC EFFECTS OF TESTOSTERONE AND AGING IN THE AORTA

SUMMARY

Angiogenesis is a physiological processin volving the growth of new blood vessels from pre-existing vessels. Angiogenic factors, found in a lot of organsand tissues, are made of protein sand stimulate angiogenesis. There are many factors forin crease of synthesisor stimulation of angiogenic agents. There are few and limited studies about the effect of testosterone on angiogenesis. In addition to the factors mentioned above angiogenesis is also affected by the age. It is now known that the interruption and changes in angiogenesis by aging play as a major factor. There is noliterature about how aging and testosterone hormone affect the angiogenesis in mammalian. The purpose of this project is determination the angiogenic effect of testosterone hormone depending on the age in mice aorta by molecular and histological methods. Forthis; intima, media and adventitial ayerthick ness and the innerdiameter of thoracic aorta in gonadectomized and testosterone treatment appliedtomice was measured. Additionally, expression of the angiogenic factor, vascular endothelial growth factor (VEGF), was assessed qualitatively and quantitatively by RT PCR.

Androgen deficiencyto cause an expansion in lumendiameterof aorta thoracica were observed in maleaged animals. This lack of sex hormones in both sexes are also cause a reduction in the amount of VEGF, respectively. Administering testosterone to female the innerlumen diameter expansion was determined. With hormon esupplements, increase in the amount of VEGF was observed in male, the decline was noted in females.

Keywords: angiogenesis, testosterone, age, aorta, VEGF, mouse.