

EFFECTS OF BEVACIZUMAB, AN ANTI VASCULAR ENDOTHELIAL GROWTH FACTOR MONOCLONAL ANTIBODY, ON KIDNEY FUNCTION AND MORPHOLOGY

SUMMARY

Aim: To constitute an experimental rat model by using human VEGF monoclonal antibody bevacizumab, for observation of renal side effects of this treatment and to evaluate the effects of bevacizumab on rat kidney.

Method: Thirtysix adult female Wistar albino rats has been divided as two main groups: “three days” and “21 days” . Each group has been divided in three; bevacizumab 10 mg/kg and 20 mg/kg were administered intravenously from the tail veins of the two subgroups and 1 mg/kg saline was administered to the third subgroup as control. Urine for 24 hours for detection of proteinuria and blood samples for detection of renal funtions were collected before drug administration, third day of the drug administration and 21st day of the drug administration and rats were sacrificed at third and 21st days for pathological examination of kidneys.

Results: Twenty four hours urine protein excretion, creatinin excretion and urine protein/creatinin ratio were demonstrated as significantly increased on the third day of the rats administered 10 mg/kg bevacizumab; however, any significant increase of proteinuria couldn't be shown on the 21 days group rats administered neither 10 mg/kg or 20 mg/kg. Pathological examination of rats sacrificed on third day demonstrate the significant increase of bowman capsule gap and interstitial inflamation as correlated with the dosage of the drug. And the thickness of vessel wall as correlated with the dosage of drug was observed on the pathological examination of rats sacrificed on 21st day.

Conclusion: It has been shown that for constitution of an experimental rat model by using human VEGF monoclonal antibody bevacizumab, for observation of renal side effects of this treatment, bevacizumab administration of 10 mg/kg for three days is proper.

Key Words: human VEGF monoclonal antibody, bevacizumab, kidney

Communication Address: Adnan Menderes Univercity Medical School, Department of Internal Medicine, Aydın. Türkiye. soysalnes@gmail.com