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P212. VEGF gene polymorphisms and serum VEGF levels in preeclampsia

F Khidri (PK) [1], A Waryah (PK) [2], F S (PK) [3]

BACKGROUND/OBJECTIVES: Vascular endothelial factor (VEGF) plays an important role in angiogenesis, vasculogenesis and endothelial cell migration. VEGF gene polymorphisms have been studied in relation to preeclampsia in various populations however its role in Pakistani women has not been studied yet. Present study aimed to find out genotypes of VEGF A2578C (rs699947) and VEGF C936T (rs3025039) polymorphisms and serum levels of VEGF in preeclamptic women in comparison with normal pregnant women. METHODS: We conducted case control study at Liaquat University of medical and health sciences (LUMHS), Jamshoro. 80 preeclamptic women and 80 normal pregnant women with matched gestational age were selected. Venous blood sample was collected for serum and DNA extraction. VEGF A2578C and VEGF C936T polymorphisms genotyping was carried out by tetra-primer amplification refractory mutation system polymerase chain reaction (ARMS-PCR) method that was developed and optimized at molecular biology and genetics department, LUMHS. Serum VEGF was determined by ELISA method using commercially available kit. RESULTS: For the VEGF A2578C polymorphism the homozygous CC genotype was found in 31.2% of cases and 25% of control group, heterozygous AC genotype 46.3% among cases and 56.3% among controls whereas homozygous AA genotype distribution was 22.5% among cases and 18.7% among controls. VEGF C936T genotypes for homozygous CC were found to be 81.2% for cases and 77.5% for control group whereas genotypes for heterozygous CT were 18.8% for cases and 22.5% for controls. No homozygous TT genotypes were found in either preeclampsia or control group. Serum VEGF levels were significantly higher among cases as compared to controls ($p < 0.05$). CONCLUSION: We did not find significant association of VEGF A2578C and VEGF C936T polymorphisms in development of preeclampsia in our population. However raised serum VEGF levels in preeclampsia may direct alteration in levels of angiogenic and anti-angiogenic factors in disorder. Moreover we have developed cost-effective method that in future can be used as diagnostic genotyping tool for VEGF gene polymorphisms in various associated disorders.

[1] Liaquat university of medical and health sciences, Jamshoro, [2] Liaquat university of medical and health sciences, Jamshoro, [3] Liaquat university of medical and health sciences, Jamshoro