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Lack of association of genetic polymorphisms of angiotensin-converting enzyme gene I/D and glutathione-S-transferase enzyme T1 and M1 with retinopathy of prematures

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ABSTRACT. One of the most frequently observed causes of blindness in infancy is the pathogenesis known as retinopathy of prematurity (ROP). Angiotensin-converting enzyme (ACE) is a vital enzyme in the renin-angiotensin-aldosterone system; it is involved in the development of cardiovascular system diseases linked to I/D polymorphism of the ACE gene. Glutathione-S-transferase enzyme (GST) is one of the most important regulating components of the antioxidant system; there are indications that certain polymorphisms of GST genes (GSTT1, GSTM1), especially the null genotypes, increase the tendency for oxidative stress diseases. We investigated a possible correlation between ACE gene I/D and GSTT1 and GSTM1 gene polymorphisms in 56 prematures suffering from ROP and a control group composed of 48 prematures without ROP in a hospital in Turkey. PCR was used to detect the ACE I/D, GSTT1 and GSTM1 gene polymorphisms. Genotype was

determined based on bands formed on agarose gel electrophoresis. We found no significant differences in genotype frequency of the ACE I/D, GSTT1 and GSTM1 genes between normal subjects and patients with ROP. Our results do not support an association of ACE I/D, GSTT1 and GSTM1 gene polymorphisms with risk for ROP.

Key words: Polymorphism; ACE gene; GSTT1; GSTM1; Retinopathy of prematurity

