

DNA repair genes in endometriosis

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ABSTRACT. Several polymorphisms in the DNA repair gene are thought to have significant effects on cancer risk. We investigated the association of polymorphisms in the DNA repair genes XRCC1 Arg399Gln, XRCC3 Thr241Met, XPD Lys751Gln, XPG Asp1104His, APE1 Asp148Glu, and HOGG1 Ser326Cys with endometriosis risk. Genotypes were determined by PCR-RFLP assays in 52 patients with endometriosis and 101 age-matched healthy controls. Although there were no significant ($P > 0.05$) differences in the frequencies of genotypes or alleles of APE1, XRCC1, XPD, XPG, and HOGG1 genes between patients and controls, the frequency of the XRCC3 Thr/Thr genotype was significantly greater in endometriosis patients compared with controls ($P = 0.005$). XRCC3 Thr/Met genotypes ($P = 0.022$), and the Met allele ($P = 0.005$) seem to have a protective role against endometriosis. The distributions of genotypes and alleles of the genes APE1, XRCC1, XRCC3, XPD, XPG, and HOGG1 were not significantly associated with the different stages of endometriosis ($P > 0.05$). We conclude that the XRCC3 Thr/Thr genotype is associated with endometriosis in Turkish women.

Key words: DNA repair; XRCC3 Thr/Thr; Endometriosis; Polymorphism