Pharmacogenomics. 2012 Nov;13(14):1595-607. doi: 10.2217/pgs.12.162.

Association of ERCC1 SNPs with outcome in platinum-treated patients with advanced urothelial cancer: a Hellenic Cooperative Oncology Group study.

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Source

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Abstract

Aim: The association between two polymorphisms of ERCC1 and treatment outcomes after platinum-based chemotherapy in patients with advanced urothelial cancer (UC) was examined. Materials & methods: Genotyping of 19007C>T and 8092C>A polymorphisms was determined by PCR amplification and RFLP in 113 advanced UC patients, treated with platinum-based chemotherapy. Results: Seventy eight patients (69%) were carriers of the 19007T polymorphic allele: 51 (45%) heterozygotes and 27 (24%) homozygotes. Fifty three (47%) patients were carriers of the 8092A polymorphic allele: the frequencies of C/A and A/A genotypes were 37% and 10%, respectively. The T/T genotype was independently associated with prolonged median cancer-specific survival (not-reached vs 14.8 months; p = 0.026). There was no interaction between T/T or any other genotype with the type of platinum derivative (cisplatin/carboplatin). Conclusion: 19007C>T, especially in its homozygotic state, but not 8092C>A polymorphism, could be a useful prognostic marker in advanced UC treated with platinum-based chemotherapy. Original submitted 17 July 2012; Revision submitted 21 September 2012.