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Genetic variability of DNA repair mechanisms in chemotherapy treatment outcome of gastric cancer patients

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ABSTRACT. We investigate whether three common polymorphisms in *ERCC1* and *ERCC2* are predictor factors for the chemotherapy response, as well as the clinic outcome of patients with gastric cancer. Between May 2011 and May 2013, 263 patients with gastric cancer who were newly diagnosed by histopathology were enrolled in our study. Genotyping of the *ERCC1* rs11615 and rs3212986, and *ERCC2* rs1799793 polymorphisms were conducted by the polymerase chain reaction-restriction fragment length polymorphism assay. Patients carrying the TT genotype and TT+CT genotype of *ERCC1* rs11615 were associated with poorer response to chemotherapy and shorter survival times when compared with the CC genotype. In conclusion, our results suggested that the *ERCC1* rs11615 polymorphism in the DNA repair pathways can be used as predictive factors to the clinical outcome of patients with gastric cancer.

Key words: ERCC1; ERCC2; Polymorphism; Overall survival; Response to chemotherapy; Gastric cancer

