Association of \textit{GSTP1} and \textit{XRCC1} gene polymorphisms with clinical outcomes of patients with advanced non-small cell lung cancer

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\textbf{ABSTRACT.} We investigated the association between the polymorphisms \textit{GSTP1} rs1695 and \textit{XRCC1} rs1799782 and rs25487 and the clinical outcome of patients with non-small cell lung cancer (NSCLC) receiving cisplatin-based chemotherapy. Genotyping of \textit{GSTP1} rs1695 and \textit{XRCC1} rs1799782, and rs25487 was conducted by polymerase chain reaction-restriction fragment length polymorphism analysis. By conditional logistic regression analysis, patients carrying the GG genotype of \textit{GSTP1} rs1695 and the AA genotype of \textit{XRCC1} rs25487 were found to be more highly associated with response to chemotherapy than were those carrying the AA genotype; the ORs (95%CIs) were 0.13 (0.04-0.37) and 3.37 (1.44-8.53), respectively. Presence of the GG genotype of \textit{GSTP1} rs1695 and the GA and AA genotypes of \textit{XRCC1} rs25487 was associated with overall survival of
NSCLC, and the hazards ratios (95%CI) were 4.35 (1.40-17.92), 0.53 (0.31-0.91), and 0.39 (0.18-0.83), respectively. The results of our study suggest that the GSTP1 rs1695 and XRCC1 rs25487 polymorphisms might affect the clinical outcome of patients with advanced NSCLC receiving cisplatin-based chemotherapy.

**Key words:** GSTP1; XRCC1; Polymorphism; Clinical outcome; Advanced non-small cell lung cancer