Editorial

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ERCC1 and the Prognosis for Patients With Colon Cancer Receiving Oxaliplatin-Based Adjuvant Chemotherapy

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Oxaliplatin is known to be a platinum-based chemotherapeutic agent that carries a 1, 2-diamino-cyclohexane ring. This drug has shown *in vitro* and *in vivo* antitumor activities in patients with colorectal cancer (CRC) [1]. The addition of oxaliplatin to 5FU (FOLFOX regimen) was shown to improve the adjuvant treatment of stage-III colon cancer by reducing the risk of recurrence and increasing overall survival [2, 3]. Oxaliplatin exerts its action by forming DNA-platinum mono-adducts, primarily with guanines. Oxaliplatin also inhibits DNA replication and transcription and induces apoptosis [1]. Generally, oxaliplatin-induced adducts are not recognized by the mismatch repair system, but are repaired by the nucleotide excision repair and base excision repair pathways [4, 5]. An enhanced DNA repair efficiency may contribute to a resistance to platinum-based cytotoxic drugs. Several studies have demonstrated that single nucleotide polymorphisms involved in DNA repair, such as excision repair cross-complementing group 1 (ERCC1) [6], may predict the clinical outcome for patients receiving oxaliplatin-based chemotherapy for the treatment of CRC. In metastatic CRC, measurements of the ERCC1 and the thymidylate synthase (TS) expressions have potential clinical utility in managing patients, and several studies have addressed the role of ERCC1 in terms of adjuvant colon-cancer treatment.

The authors used immunohistochemical staining in an attempt to identify ERCC1 as a predictive marker for FOLFOX adjuvant chemotherapy in treating patients with stage-II and -III colon cancer [7]. They found that ERCC1 expression was not significantly correlated with the 5-year disease-free survival as reflected by the oncologic outcomes in patients with high-risk stage-II and -III colon cancer treated with FOLFOX adjuvant chemotherapy. Although the authors could not show any predictive impact of ERCC1, negative results regarding ERCC1 in the era of colon cancer are not unusual, which is the reason a further prospective, large-scale study is needed regarding this issue.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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