



Correlation between ERCC1 expression and concurrent chemotherapy and radiotherapy in patients with locally advanced nasopharyngeal cancer

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ABSTRACT. In this study, the expression of DNA excision repair cross-complementing gene 1 (ERCC1) in local advanced nasopharyngeal carcinoma has been correlated with the efficacy of concurrent chemoradiotherapy. A total of 76 patients diagnosed with undifferentiated nasopharyngeal carcinoma diagnosed by nasopharyngeal biopsy and undergoing single-agent cisplatin chemotherapy (80 mg/m²) with concurrent radiotherapy (on the first, twenty-second, and forty-third day, 5 times per week, mean dose 74 Gy, range 70-78 Gy) at the Affiliated Cancer Hospital of Guangxi Medical University between January and December 2010 were included. After chemoradiotherapy, outcomes and long-term survival were evaluated. Immunohistochemistry was used to detect expression of ERCC1 protein in nasopharyngeal carcinoma. The relationship between the expression of ERCC1 and efficacy of concurrent chemoradiotherapy and long-term survival were analyzed. ERCC1 was expressed in 42.1% of cases. The expression of ERCC1 was correlated with T

stage and clinical staging ($P < 0.05$), but not with gender, age, or N stage. The response rate in the ERCC1-positive and ERCC1-negative groups was 75.0% and 97.7%, respectively ($P < 0.05$). In the 72 cases with follow-up available, 1-, 2-, and 3-year survival rates were 91.0, 83.3, and 79.0%; they were 92.4, 87.8, 80.5%, respectively, in the ERCC1-positive group, and 87.9, 77.4, 77.4%, respectively, in the ERCC1-negative group. The expression of ERCC1 may be a sensitive prognostic indicator of concurrent chemoradiotherapy in locally advanced nasopharyngeal carcinoma.

Key words: Nasopharyngeal carcinoma; Concurrent chemoradiotherapy; Excision repair cross-complementing gene 1 (ERCC1); Curative effect; Overall survival