

MK-1 Expression in the Main Tumor and Invasive Front of Advanced Colorectal Adenocarcinoma and its Clinicopathological Significance

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Abstract: Background: MK-1 is a 40kD transmembrane glycoprotein expressed on human epithelial cell membrane with function of intercellular adhesion molecule, which belongs to Ep-CAM (epithelial cell adhesion molecule) family. The aim of the present study is to evaluate the MK-1 expression in the main tumor and invasive front of advanced colorectal adenocarcinoma. We analyzed the relationship between the MK-1 expression and the patients' prognosis as well as various clinicopathologic features. Method: The MK-1 expression was immunohistochemically investigated in the 152 case of advanced colorectal adenocarcinoma, by using formalin fixed and paraffin embedded samples. MK-1 expression was determined as positive when more than 25% of tumor cells reacted with anti-MK-1 monoclonal antibody. The evaluated clinicopathologic factors included age, gender, location, tumor cell differentiation, lymphatic and venous permeations, sprouting, TNM stage of the disease classification and prognosis. Comparisons between the MK-1 positive and negative groups were performed using the χ^2 -test or Fisher exact method. Survival curves of patients were determined by using the Kaplan-Meier method and were analyzed with the log-rank test. Results: (1) MK-1 expression in the invasive front (39.5%) was significantly lower than that of the main tumor (52.6%) ($P<0.05$). (2) MK-1 expression in poorly differentiated area of the invasive front (15.0%) was significantly lower than that in well and moderately differentiated area (44.1%) ($P<0.05$). (3) MK-1 expression in the main tumor was significantly decreased in N1+N2 (41.7%) and stage III+IV (43.6%) groups, compared with N0 (62.5%) and stage I+II (62.2%) groups ($P<0.05$). (4) MK-1 expression in the invasive front was significantly decreased in N1+N2 (25.0%), M1 (17.2%) and stage III+IV (25.6%) groups, compared with N0 (52.5%), M0 (44.7%) and stage I+II (54.1%) groups, respectively ($P<0.01$). (5) MK-1 expression in the main tumor was not associated with the patients' prognosis. However, loss of MK-1 expression in the invasive front was significantly related to the poor prognosis ($P<0.05$). Conclusion: The loss of MK-1 expression in the invasive front of advanced colorectal adenocarcinoma may be related to lymph node metastasis, patients' clinical stage and prognosis.

Key words : Colorectal carcinoma, Invasive front, MK-1, Sprouting, TNM staging, Prognosis