

Evaluation of Colorectal Adenocarcinomas at Single-Institution with Respect to Microsatellite Instability

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Abstract

Background and aim: Hereditary non-poliposis colorectal cancers exhibit a high rate of microsatellite instability. Comparative studies involving stage and other prognostic parameters demonstrate a better prognosis in the presence of microsatellite instability versus colon cancers without microsatellite instability.

Methods: Our study included 608 cases diagnosed with colo-rectal adenocarcinoma by our laboratory between 2004-2010. The cases were re-evaluated with respect to criteria defined for MSI, taking into consideration age, anatomic localization, and histopathological criteria. Immunohistochemical study was performed in appropriate blocks for using MLH-1, MSH-2, MSH-6, and PMS-2.

Results: The specimens were re-evaluated according to the histological criteria defined for microsatellite instability. Anti-MLH-1, anti-MSH-2, anti-MSH-6, and anti-PMS-2 antibodies were applied to the paraffin blocks of 27 cases which presented morphological criteria suggestive of DNA repair mutation and had a high Mspath score. Immunohisto-chemical study with MLH-1, MSH-2, MSH-6, and PMS-2 for the analysis of mismatch repair was refined using the cases with higher Mspath scores.

Conclusions: In this study, we reviewed the clinical and histopathological features of 608 cases with colorectal adeno-carcinoma diagnosed in our laboratory between 2004-2010 and assessed pathological features in terms of microsatellite instability. The results were discussed in view of the literature.

Key words: colorectal adenocarcinoma, microsatellite instability, hereditary non-poliposis colorectal cancer, immunohistochemistry

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