Microsatellite instability and tumor deposits in colorectal cancer

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BACKGROUND AND OBJECTIVE: Microsatellite instability (MSI) is a major pathway in colorectal carcinoma progression and tumor deposit formation is a well documented feature of colorectal carcinomas. In this series, MSI and morphological features of colorectal carcinomas are evaluated.

METHODS: Colorectal carcinoma cases with immunohistochemistry MSI results were selected. Morphomolecular features were retrieved from the pathology reports along with BAT25, BAT26, NR21, NR24 and mono-27 MSI analysis with real-time PCR. Frequency of MSI biomarkers were evaluated and pathological features of MSI positive and negative cases were compared.

RESULTS: Loss of MLH1, MSH2, MSH6, PMS2 expressions were observed in 46(10.43%), 10(2.27%), 34(7.94%), 49(11.11%) of the 441 cases respectively. At least one of the MSI markers was lost in 76(17.23%) cases; of these, 50 cases had RT-PCR results; 3(6%) were MSI-low and 31(62%) were MSI high. Intratumoral, peritumoral inflammation, mucinous, medullary and poorly differentiation were significantly more in MSI (+) cases (p=0.000, p=0.000, p=0.006, p=0.000, p=0.000) but T stage, lymphatic, vascular, perineural invasion and budding was not different (p=0.554, p=0.274, p=0.433, p=0.453, p=0.251). pN stage was significantly lower in MSI (+) cases. Tumor deposits were less frequent in MSI (+) cases (18.2% versus 29.4%), but this was not statistically significant (p=0.120). Three cases without IHC markers but family history and suspicious morphology were also MSI (+).

DISCUSSION: With a stepwise approach, including morphology, IHC and RT-PCR for providing information about MSI status of colorectal carcinoma cases, like lymph node metastasis, tumor deposit formation may be less frequent in MSI (+) colorectal carcinoma cases.

Anahtar Kelimeler : Microsatellite instability, tumor deposits, colorectal cancer