NEW PROGNOSTIC MARKERS FOR CRC

Detection of *KRAS* mutation and *RASSF2A* methylation in serum from patients with unresectable metastatic colorectal cancer (CRC) could be used as a predictive marker of clinical outcome, according to a new study.

CRC is one of the most common causes of death from cancer in developed countries and there is currently no validated prognostic marker for metastatic CRC. Genetic and epigenetic alterations within the primary tumor and their metastases can serve as markers for CRC. *KRAS* point mutations have been detected in 40% of CRC tumors and methylation of *RASSF2A* has been reported as a frequent epigenetic change detected in CRC.

Lefebure and colleagues evaluated the prognostic value of circulating mutant DNA, *KRAS* mutation and *RASSF2A* methylation. The researchers studied 31 patients with metastatic CRC, extracted DNA from patients' blood and primary tumor, and used real-time and methylation-specific PCR to detect the mutant DNA. They found that 23 patients had at least one of the markers in their primary tumor and 14 patients had the markers in their serum. The investigators then grouped patients according to presence or absence of these tumor markers in their serum and followed patients' disease progression and survival for up to a year.

Poor prognosis was associated with the presence of *KRAS* mutation and *RASSF2A* methylation in patient serum, and 79% of these patients had progressive disease at 6 months compared with only 9% of patients without the markers. After 1 year, only 14% of patients with mutant DNA in their serum had no signs of disease progression compared with 73% of patients with mutant DNA in their tumor.

"This study suggests that the presence of circulating mutant DNA in metastatic CRC may be a relevant biologic parameter evaluating the severity of the metastatic disaese," conclude the researchers.

Katrina Ray

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