ColoPrint Gene Assay Predicts Stage II Colorectal Cancer Recurrence

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Durham, NC (PRWEB) February 03, 2015 -- A new study published in The Oncologist on January 5, 2015, details a novel approach to identifying patients with stage II colorectal cancer who are most likely to benefit from additional treatment due to a high risk of recurrence following surgery.

Although surgical resection is curative for the majority of patients with stage II colorectal cancer, approximately 20% will eventually develop local or distant disease recurrence following surgery. Being able to identify high-risk patients would allow clinicians to focus on those patients for additional treatment with chemotherapy, while also allowing patients who have a low risk of recurrence to avoid unnecessary treatment. However, standard clinical factors such as tumor grade and surgical margins are not particularly accurate in differentiating between patients with stage II colon cancer who need additional treatment and those who are cured with surgery alone.

A team of researchers led by Scott Kopetz, MD, PhD, at the MD Anderson Cancer Center in Houston, TX, evaluated the potential for ColoPrint, an 18-gene expression profile assay, to predict the risk of postsurgical recurrence in patients with stage II colon cancer.

“Our data suggest that ColoPrint is able to identify patients with the highest risk of recurrence, who may derive the greatest benefit from further chemotherapy,” Dr. Kopetz said. “Furthermore, with these findings, doctors and patients can be reassured about the overall excellent prognosis associated with a low-risk ColoPrint result.”

To determine the prognostic utility of the ColoPrint assay, the research team examined pooled data from several independent, international cohorts of 416 patients with stage II colon cancer who underwent curative tumor resection between 1987 and 2009. The ColoPrint assay was used to assess the gene expression profile of tumor samples prospectively collected and frozen at the time of tumor resection. The risk of relapse, defined as survival until first event of cancer recurrence or death, was calculated over the median follow-up of 81 months.

Based on results of the gene-expression analysis, the ColoPrint assay classified 63% of patients as having a low risk of relapse, while 37% were classified as having a high risk of relapse. The 5-year risk of relapse in these groups was 10.3% and 20.9%, respectively. Similarly, the 3-year risk of relapse for the low-risk and high-risk ColoPrint groups was 7.0% and 17.1%, respectively.

Researchers also examined the prognostic utility of clinical risk classification using the National Comprehensive Cancer Network (NCCN) guidelines. According to the NCCN risk-scoring system, patients with any of the following findings were classified as high-risk: T4 tumors, high-grade histology, lymphovascular/perineural invasion, perforation/obstruction, <12 nodes examined, or positive margins. Using this model, 56.7% of patients were classified as low risk and 43.3% were classified as high risk. However, the NCCN scoring system was unable to distinguish between low and high risk of relapse. The 5-year risk of relapse in the low-risk and high-risk NCCN groups was 13.3% and 15.1%, respectively.

Within the high-risk NCCN group, the ColoPrint assay downgraded many patients with T4 tumors, high-grade
histology, or low number of assessed lymph nodes as low risk (25.7%). Conversely, 19.2% of patients classified as NCCN low-risk were classified as high risk by the ColoPrint assay. The overall rate of discordance between the risk classification systems was 45%.

Based on these findings, the study authors concluded that the ColoPrint assay provides clinically meaningful segregation of recurrence risk that can inform the care of patients with stage II colon cancer. A prospective trial of patients with stage II colon cancer is currently underway to confirm the prognostic utility of the ColoPrint assay in the clinical setting (NCT00903565).

Richard M. Goldberg, MD, Senior Editor of The Oncologist, noted, “Every day oncologists consult on patients who have had a colon resection and whose disease had not yet invaded regional lymph nodes. Most but not all will be surgically cured. Determining which of those patients are at high risk for recurrence and should consider undergoing adjuvant chemotherapy can be aided by the availability of the ColoPrint genomic assay as illustrated by this study by Dr. Kopetz and his colleagues. This can be a useful tool for both patients and their physicians.”

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The full article, titled “Genomic Classifier (ColoPrint) Predicts Recurrence of Stage II Colorectal Cancer Patients More Accurately than Clinical Factors,” can be accessed at: http://theoncologist.com.

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