

Association of the colon cancer recurrence score with treatments received in patients with stage II colon cancer: The Clalit Health Services experience.

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Background: The Oncotype DX Colon Cancer Recurrence Score (RS) is a validated prognosticator in stage II colon cancer following surgery. However, the impact of the RS on daily practice is still unclear. Clalit Health Services(CHS) has reimbursed Oncotype DX colon testing since 1/2011. This prospective study examined the use of the RS and its association with treatment decisions in this setting in Israel.

Methods: Eligible patients had stage II colon cancer and testing reimbursed by CHS from 1/2011 to 5/2012. Patient/tumor data and treatment information were gathered prospectively. Data were analyzed using the Chi-squared test. **Results:** The study included 341 patients of whom 314 had confirmed stage II, T3N0 disease, and were included in the analysis. Median age was 68 years (range: 29-89); 18.2%, 68.5%, and 9.9% had grade 1, 2, and 3 tumors, respectively; 15.3% had colonic obstruction and 5.7% had lymphovascular invasion. Thirty-nine patients (12.4%) had mismatch repair (MMR)-deficient tumors and their samples were not tested further. Of the 275 tested patients, 160 (58.2%), 87 (31.6%), and 27 (9.8%) had low (<30), intermediate (30-40), and high (>40) RS, respectively (1 patient [0.4%] had no RS due to technical failure of the assay). The grade 3 group had a higher proportion of MMR-deficient tumors than the grade 2 and grade 1 groups (35.5%, 7.9% and 10.5%, respectively, $P<.0001$). In the MMR-proficient tumors, the proportions of low RS tumors according to grade were 60.8%, 58.1% and 70.0% for grades 1, 2 and 3, respectively ($P=0.57$). Chemotherapy was administered to 86/314 (27.4%) patients, including 3/39 (7.7%) in the MMR-deficient, 27/160 (16.9%) in the low, 39/87 (44.8%) in the intermediate, and 17/27 (63.0%) in the high RS groups. The most commonly used regimen was capecitabine monotherapy (61/86 treated patients, 70.9%). The differences in the proportions of patients receiving chemotherapy between the MMR-deficient, low, intermediate, and high RS groups were significant ($P<.0001$). **Conclusions:** Our findings suggest that the RS results and MMR-deficient status are significantly associated with treatment decisions in stage II colon cancer patients in Israel.