Serum Carcinoembryonic Antigen for Recurrence in Colorectal Cancer Patients

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See Article on Page 156-160

Carcinoembryonic antigen (CEA) is secreted by most colorectal cancers, and the CEA level reflects the burden of the tumor present. An elevated preoperative CEA level is a poor prognostic factor for colorectal cancer [1], and the prognosis is better in those patients whose elevated preoperative CEA level is normalized postoperatively.

Although an elevated postoperative CEA level is not specific for recurrent colorectal cancer, a rising CEA level on serial examinations and a new solid mass on imaging studies are diagnostic of metastatic disease. The role of CEA in patients following definitive management of colorectal cancer has been evaluated, and the American Society of Clinical Oncology recommended that postoperative serum CEA tests be performed every 3 months in patients with stage II or III disease for up to 3 years after diagnosis [2].

Postoperative serum CEA surveillance was more useful when patients had high preoperative serum CEA levels [3]. When the elevated postoperative serum CEA in stage III (71.9%) was higher than that in stage II colorectal cancer patients (41.8%), the incidence of recurrence was low [4]. The 18F-fluorodeoxyglucose positron emission tomography/computed tomography (CT) has an additional role in patients with isolated elevated CEA levels or positive contrast enhanced CT findings without accompanying CEA elevation [5]. Although the CEA is not an ideal tumor marker, the preoperative and the postoperative CEA levels are useful and cost effective for determining a prognosis and for predicting recurrence in colorectal cancer patients.

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