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No Increased Survival Benefit to Intensive Follow-Up After Colorectal Cancer Surgery

Clinical Question

Does intensive follow-up after surgery for colorectal cancer reduce morbidity and mortality?

Bottom Line

Compared with minimal follow-up after surgery for colorectal cancer, intensive follow-up with regular computed tomography (CT), carcinoembryonic antigen (CEA) testing, or both results in more patients undergoing repeat surgery but no reduction in overall mortality or disease-specific mortality. Overall deaths were actually higher, but not significantly so, in the more intensive follow-up groups compared with the minimal follow-up group (18.2% vs. 15.9%). Serial testing of CEA was as effective as serial CT. (Level of Evidence = 1b)

Synopsis

The optimal program for follow-up after surgery for colorectal cancer is uncertain. These investigators identified adults (N = 1,202; mean age = 69 years) with a history of curative surgery for primary colorectal cancer with no residual disease (Dukes stage A to C with microscopically clear margins) confirmed by CT or a magnetic resonance imaging liver scan and chest CT, and with normal postoperative blood CEA level. Eligible patients randomly received assignment (concealed) to one of four types of follow-up: (1) CEA follow-up, with measurement of blood CEA every three months for two years, then every six months for three years, with optional single chest, abdomen, and pelvis CT at 12 to 18 months if requested at study entry by the supervising clinician;

(2) CT follow-up, with CT of the chest, abdomen, and pelvis every six months for two years, then annually for three years; (3) CEA and CT follow-up; or (4) minimal follow-up, with no scheduled follow-up except the option of a single CT of the chest, abdomen, and pelvis if requested at study entry by the supervising clinician. All patients were offered colonoscopy after five years, and patients in the two CT groups also underwent colonoscopy after two years. The study was underpowered to detect a significant difference in all-cause mortality, so the primary outcome measured was repeat surgical treatment of recurrent disease with curative intent. Individuals who assessed outcomes remained masked to treatment group assignment. Complete follow-up occurred for all patients at five years.

Using intention-to-treat analysis, cancer recurred in 199 patients (16.6%), and 71 patients (5.9%) underwent repeat surgery for curative intent. Surgical treatment of recurrence with curative intent was significantly higher in each of the three more intensive follow-up groups compared with the minimal follow-up group (absolute difference ranged from 4.3% to 5.7%; numbers needed to treat = 12 to 20 for closer monitoring to identify one potentially curable recurrence), with no difference in repeat surgery for the combined CT plus CEA group compared with the CT or CEA alone groups. Overall deaths were higher, but not significantly so, in the more intensive follow-up groups than in the minimal follow-up group (18.2% vs. 15.9%). Disease-specific mortality was also nonsignificantly increased in the more intensive follow-up groups (10.4% vs. 9.3%). The investigators also performed a per-protocol analysis excluding 308 patients who missed more than one scheduled visit, and found results consistent with the intention-to-treat analysis.

Study design: Randomized controlled trial (single-blinded)

Funding source: Government

Allocation: Concealed

Setting: Outpatient (any)

Reference: Primrose JN, Perera R, Gray A, et al. Effect of 3 to 5 years of scheduled CEA and CT follow-up to detect recurrence of colorectal cancer: the FACS randomized clinical trial. *JAMA*. 2014;311(3):263-270.

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