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ARTICLE

Association of Colonoscopy and Death From Colorectal Cancer: A Population-Based, Case–Control Study

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Background: Colonoscopy is advocated for screening and prevention of colorectal cancer (CRC), but randomized trials supporting the benefit of this practice are not available.

Objective: To evaluate the association between colonoscopy and CRC deaths.

Design: Population-based, case–control study.

Setting: Ontario, Canada.

Patients: Persons age 52 to 90 years who received a CRC diagnosis from January 1996 to December 2001 and died of CRC by December 2003. Five controls matched by age, sex, geographic location, and socioeconomic status were randomly selected for each case patient.

Measurements: Administrative claims data were used to detect exposure to any colonoscopy and complete colonoscopy (to the cecum) from January 1992 to an index date 6 months before diagnosis in each case patient and the same assigned date in matched controls. Exposures in case patients and controls were compared by using conditional logistic regression to control for comorbid conditions. Secondary analyses were done to see whether associations differed by site of primary CRC, age, or sex.

Results: 10 292 case patients and 51 460 controls were identified; 719 case patients (7.0%) and 5031 controls (9.8%) had undergone colonoscopy. Compared with controls, case patients were less likely to have undergone any attempted colonoscopy (adjusted conditional odds ratio [OR], 0.69 [95% CI, 0.63 to 0.74; $P < 0.001$]) or complete colonoscopy (adjusted conditional OR, 0.63 [CI, 0.57 to 0.69; $P < 0.001$]). Complete colonoscopy was strongly associated with fewer deaths from left-sided CRC (adjusted conditional OR, 0.33 [CI, 0.28 to 0.39]) but not from right-sided CRC (adjusted conditional OR, 0.99 [CI, 0.86 to 1.14]).

Limitation: Screening could not be differentiated from diagnostic procedures.

Conclusion: In usual practice, colonoscopy is associated with fewer deaths from CRC. This association is primarily limited to deaths from cancer developing in the left side of the colon.

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