Knowledge and predictors of dysplasia surveillance performance in inflammatory bowel diseases in Australia CME

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Background: Dysplasia surveillance is recognized as an integral component in the management of inflammatory bowel diseases (IBDs). The adherence to surveillance guidelines is variable, and understanding of quality indicators and predictors of behavior is currently limited.

Objective: To perform a nationwide evaluation of the quality of IBD surveillance practiced by Australian endoscopists and to determine the predictors of quality practice.

Design: Cross-sectional nationwide survey.

Setting: Survey distributed through the gastroenterology and colorectal surgery societies covering knowledge and practice of IBD surveillance.

Main Outcome Measurements: Adherence to indicators of high-quality surveillance and median score of IBD surveillance guideline knowledge.

Results: A total of 264 responses were received, comprising 240 respondents who perform surveillance screening (218 gastroenterologists, 46 colorectal surgeons). Gastroenterologists were significantly more likely to undertake surveillance ($P < .001$), adhere to guidelines ($P = .02$), use advanced imaging modalities ($P = .04$), and have greater surveillance knowledge than colorectal surgeons ($P < .001$). Knowledge score and gastroenterologists were independent predictors of dysplasia screening (odds ratio [OR] 1.66; 95% confidence interval [CI], 1.41-1.96 and OR 11.2; 95% CI, 4.53-27.87), guideline adherence (OR 1.15; 95% CI, 1.01-1.31 and OR 2.42; 95% CI, 1.11-5.30), and advanced endoscopic imaging technique use (OR 1.19; 95% CI, 1.05-1.35 and OR 2.2; 95% CI, 1.02-4.74).

Limitations: Potential responder bias results appear, however, aligned with those of previous studies.

Conclusions: IBD dysplasia surveillance in Australia is being performed at a high standard. Gastroenterology specialization and knowledge score have been demonstrated to be strong predictors of high-quality surveillance practice. This is the first study to determine predictors of screening behavior and quantify surveillance quality. These results further emphasize that gastroenterologists should play a key role in IBD surveillance. (Gastrointest Endosc 2015;82:708-14.)

Abbreviations: CD, Crohn's disease; CI, confidence interval; CRC, colorectal cancer; CRS, colorectal surgeon; HGD, high-grade dysplasia; IBD, inflammatory bowel disease; LGD, low-grade dysplasia; OR, odds ratio; PSC, primary sclerosing cholangitis; UC, ulcerative colitis.

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Patients with the inflammatory bowel diseases (IBDs) ulcerative colitis (UC) and Crohn's disease (CD) are at increased risk of colorectal dysplasia.[1,2] The risk of dysplasia develops cumulatively with increasing disease extent and duration, coexistent primary sclerosing cholangitis (PSC), uncontrolled inflammation, and positive family history of colorectal cancer (CRC).[3-5] Recent Australian population-based data suggest a cumulative incidence of CRC of 7% after 30 years of disease diagnosis,[4] a lower rate than older hospital-based studies. The decreased rate of CRC may represent improved IBD treatment, use of chemoprophylaxis, and dysplasia screening programs.[6]

There is increasing evidence that IBD surveillance programs effectively prevent CRC.[7] Evidence from case-control studies supports the practice of surveillance colonoscopy[7-10] for which best practice recommendations cover the timing of first procedure relative to symptom onset, surveillance intervals, targeted versus random biopsy specimens to detect dysplasia, and the use of chromoendoscopy to identify dysplasia.[11,12] These strategies have been adopted by the American Gastroenterological Association,[13] the American College of Gastroenterology,[14] the British Society of Gastroenterology,[15] the European Crohn's and Colitis Organisation,[16] the American Society for Gastrointestinal Endoscopy,[17] and, most recently, the Australian National Health and Medical Research.[18] Surveys on surveillance behaviors and adherence to guidelines have demonstrated variable results in the United States,[19,20] the United Kingdom,[21] the Netherlands,[22] and New Zealand.[23] They demonstrated overall low physician knowledge of the definition of dysplasia,[19] variability in the management of dysplastic lesions, and optimal surveillance intervals.[19,20] As improving the quality of colonoscopies and auditable colonoscopy indicators are increasingly emphasized,[24] IBD surveillance colonoscopy quality should continue to improve. The extent of adherence to modern IBD surveillance guidelines, knowledge of these guidelines, and the adoption of advanced imaging tools is unknown. Also the differences in knowledge, surveillance behaviors, and management of dysplastic lesions identified at colonoscopy between gastroenterologists and nongastroenterologist endoscopists remain poorly defined. This cross-sectional nationwide survey of gastroenterologists and colorectal surgeons (CRSs) aimed to evaluate the knowledge of IBD surveillance quality indicators, surveillance strategies, and management of dysplastic lesions in light of modern guidelines and to determine the predictors of high-quality surveillance.

METHODS

Survey questionnaire and IBD surveillance knowledge score

A survey was developed to explore the broad range of factors that contribute to the quality of dysplasia surveillance. The themes focused on in other studies were further developed to provide more complete insight into Australian surveillance practice and to facilitate a quantification of performance. The structured survey was designed by a focus group of 3 gastroenterologists and comprised 22 self-administered questions (Appendix 1, available online at www.giejournal.org). The survey is a composite of knowledge of surveillance indications, frequency of surveillance, identification and management of low-grade dysplasia (LGD) and high-grade dysplasia (HGD), as well as behaviors including the numbers of random biopsy specimens taken, the use of targeted biopsy specimen, "red-flag" colonoscopic imaging technique to maximize dysplasia detection, and the use of appropriate pathology services. A novel IBD Surveillance Knowledge Score (Appendix 2, available online at www.giejournal.org) was devised that was derived from the survey as a tool to measure overall performance and tested for construct validity and discriminant ability. The IBD Surveillance Knowledge Score was calculated as the sum of correct responses to survey questions that are aligned with the American Gastroenterological Association (2010) position statement[13] on dysplasia surveillance and local best practice standards. Each appropriate response contributes 1 point to the respondent's score. The maximum possible score is 18. For construct validity, a high performance score had to represent a good understanding of the surveillance strategies. During the development phase, the survey was administered to senior gastroenterologists not directly involved in designing the study, and they were deemed as criterion standards. The survey was then administered to gastroenterology fellows, junior resident medical officers, and nonmedical staff. Gastroenterologists scored significantly higher than the other groups. Discriminant validity was tested post hoc, and the score needed to discriminate those who performed surveillance colonoscopy from those who did not. Construct validity compared the knowledge scores of those who followed published guidelines versus those who did not. Factor analysis by using principal component analysis was performed with an Eigenfeld value >1 and the direct oblimin method to determine variances and dimension reduction.

Recruitment

Physician gastroenterologists and CRSs were contacted by proxy through the Gastroenterological Society of Australia and the Colorectal Surgical Society of Australia and New Zealand and were anonymously e-mailed newsletters and reminder e-mails distributed by their specialist societies. Records indicated that there were 411 gastroenterologists and 128 CRSs in Australia, although not all were actively practicing, performed endoscopy, or routinely saw adult IBD patients. Completion of the voluntary questionnaire was deemed implied consent, and the study was approved by the Human Research Ethics Committee at