OPINION

Risk and reward: rethinking the paradigm for adenoma surveillance

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The identification, detection and removal of colonic adenomas reduce the risk of colorectal cancer (CRC).^{1 2} The impact of this strategy lies in the provision of high quality effective colonoscopy at index examination. A clear relationship exists between quality indicators and the subsequent risk of postcolonoscopy colorectal cancer (PCCRC). In a Polish study (Kaminski *et al*), individuals with an adenoma detection rate (ADR) <20% increased the risk of PCCRC in the following 5 years.³ In a study by Baxter *et al*, patients were less likely to develop interval cancers if a high 'polyp' detecting operator performed the initial colonoscopy; however, this impact was confined to the proximal colon, and the histological status of the polyps was not known.⁴ In a study by Corley *et al*, reviewing the association between ADR and subsequent CRC and death, for every 1% increase in ADR there was a 3% reduction in interval cancer (HR 0.97; 95% CI 0.96 to 0.98).⁵ A clear inverse relationship exists between ADR and subsequent interval CRC, advanced interval CRC and fatal interval cancer.

The British Society of Gastroenterology (BSG) published guidance in 2002 on adenoma surveillance intervals.⁶ This guidance suggested that the future risk of developing CRC or advanced adenoma (defined as adenomas >1 cm, villous component or containing high grade dysplasia) varied according to size and number of adenomas removed at index colonoscopy. This stratified patients into risk categories and determined the time between surveillance intervals.

At a review of the guidance in 2010, no changes were made due to the lack of new quality randomised control trial evidence.⁷ In 2011, the National Institute of Care and Health Excellence guideline CG118 adopted the BSG guidance.⁸ CG118 is currently on the static list; this

attracts 5-yearly review, suggesting the status quo will persist.

Currently, the BSG guidance is dependent on the number and size of adenomas, recommending that patients with low-risk adenomas (one or two, and both small <1 cm) either have no surveillance or a further colonoscopy at 5 years. This differs from the English bowel cancer screening programme where low-risk groups are not offered further colonoscopy and are returned to biennial FOBt testing. The intermediate and high-risk patients are managed in line with BSG guidance.

In the USA, surveillance intervals are determined by size and histology. If the lesion has features of an advanced adenoma, patients undergo 3-year surveillance.⁹

With spiralling health costs, it is essential to provide clinically effective treatments that are value based. In the USA, the priority was to get more patients into screening and limit excessive polyp surveillance as result of shortened or frequent surveillance intervals.

In this journal, Hornung *et al* challenge the dogma of providing 5-year surveillance in low-risk groups, "Surveillance Colonoscopy in Low Risk Post-Polypectomy Patients—Is It Necessary?"¹⁰

They identified patients who underwent polypectomy of one or two sub-1 cm adenomas (BSG low-risk group) in the North East of England between 2004 and 2007. They looked at data from endoscopic follow-up and CRC databases in low-risk patients. Of 641 patients identified, 131 underwent an appropriate 5-year follow-up colonoscopy (no cases of cancer were detected). Out of the whole cohort, 6.6% of patients went on to develop advanced neoplasia—this group included five patients who went on to develop CRC (0.78%). These were felt to be new

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cancers identified after patients developed symptoms. Subgroup analysis revealed that male patients were significantly more likely than female patients to have further polyps ($p=0.021$), and patients with two adenomas removed (as opposed to one) were significantly more likely to develop advanced neoplasia ($p=0.013$).

Patients with advanced adenoma at index polypectomy were significantly more likely to have advanced adenoma(s) at follow-up ($p=0.004$). This aligns with the US approach to surveillance decisions.

The evidence and utility for low-risk screening is rightly challenged and will undoubtedly bring about allocative efficiencies translating into improved use of available resources. The concept of advanced adenoma used in conjunction with BSG guidance provides opportunity to risk profile and focus resources at those most likely to benefit.

Interestingly, the paper is also an insightful commentary on our ability to implement professional guidance, with only 131 patients of the 641 receiving appropriate 5-year follow-up.

The paper is a positive step in the lexicon of evidence for adenoma surveillance. However, further questions need answering such as: are right sided adenomas different to left sided adenomas in behaviour, risk and required surveillance interval? Do we need to add location to size, number, gender and histological features in determining surveillance intervals?

While current guidance sits on the static list in splendid isolation, this paper provides evidence for adopting a more nuanced approach to determining future surveillance requirements. It serves as a call to arms to provide the body of evidence for future risk based, personalised, surveillance guidance.

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