BARRETT ESOPHAGUS

Need for ongoing surveillance called into question for patients with non-dysplastic Barrett esophagus

Two new studies add to the debate surrounding ongoing endoscopic surveillance for patients with non-dysplastic Barrett esophagus (BE); although BE has long been accepted as the major risk factor for esophageal adenocarcinoma (EAC), the findings of these studies suggest that the risk is much lower than previously assumed.

“The expected high risk of cancer among patients with BE forms the basis of extensive endoscopy surveillance programs, including repeated biopsy sampling; however, the risk estimates are based on numerous small and selected cohorts of patients, possibly overestimating the risk association,” explains Frederik Hvid-Jensen from Aarhus University Hospital, Denmark. For this reason, Hvid-Jensen and colleagues sought to clarify the cancer risk by performing a large, nationwide, population-based study.

The researchers identified all new cases of BE in Denmark over a period of 18 years by accessing the Danish health-care registries, which cover the entire population (Denmark has a free health-care system). All patients found to have BE were followed up via their civil registration number, which is assigned at birth; those who subsequently received a diagnosis of EAC were identified from the Danish Cancer Registry.

11,028 patients with BE were identified; within the median follow-up period of 5.2 years, 197 patients were diagnosed with EAC. Excluding the 131 cases of cancer that developed in the first year of follow-up, the annual risk of EAC was 0.12%, almost five times lower than the assumed annual risk of 0.5%. Compared with the general population's risk of developing EAC, patients with BE had a relative risk of 11.3, also much lower than assumed. The incidence rate of high-grade dysplasia or EAC in patients who had evidence of low-grade dysplasia at the time BE was diagnosed was 5.1.

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“In the approximately 90% of BE patients who do not have dysplasia at diagnosis or do not develop further dysplastic changes within the first year of surveillance, clinicians should now re-consider the benefits of continuous endoscopic surveillance, and this ought to be implemented in future guidelines,” says Hvid-Jensen. “Future research should try to identify new, reliable and clinically useful biomarkers that can guide clinicians in their work to identify and focus on subgroups of high-risk patients.”

Tusar Desai and colleagues from the USA were also interested in the risk of EAC in patients with BE. “We undertook this project because we and many other clinicians felt that the incidence ... had long been overestimated at 0.5% annually,” explains Desai. “In addition, the 0.5% incidence was applied indiscriminately to BE that was 5 cm long, 7 cm long, 3 cm long or 1 cm long.”

In their study, Desai *et al.* performed a stringent meta-analysis of cohort studies. Excluding duplicate and redundant studies and baseline dysplasia, their analysis was

limited to 57 of 3,450 studies (11,434 patients, follow-up 58,547 patient years).

The annual risk of EAC in this study was 0.33% for patients with non-dysplastic BE, higher than that reported by Hvid-Jensen *et al.* (direct comparison of the two is not possible as BE length was not specified in the Danish study). The risk decreased to 0.19% if only patients with non-dysplastic short segment BE (maximum length 3 cm) were considered (16 studies provided such information).

“The vast majority of BE patients undergoing surveillance endoscopy in the USA today have short segment BE,” says Desai. “Our findings raise very serious doubts regarding the value of any surveillance at all for patients with short segment non-dysplastic BE.”

Data from the 16 studies that provided information on mortality also revealed that the incidence of non-esophageal mortality in patients with non-dysplastic short segment BE was more than 10 times the incidence of EAC in this setting.

“Further studies are needed to evaluate the incidence of EAC among patients with non-dysplastic BE, with detailed information on BE length,” argues Desai. “What is needed now is a large cohort study of BE patients with a specified BE segment length in a community-based setting,” he concludes.

Regardless of the study designs used by the two groups, the incidence of EAC in patients with non-dysplastic BE seems to have been overestimated. As such, the clinical implication is clear, with both sets of authors suggesting that the surveillance strategies in use for patients with non-dysplastic BE may need to be re-evaluated.

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Original articles Hvid-Jensen, F. *et al.* Incidence of adenocarcinoma among patients with Barrett's esophagus. *N. Engl. J. Med.* 365, 1375–1383 (2011) | Desai, T. K. *et al.* The incidence of oesophageal adenocarcinoma in non-dysplastic Barrett's oesophagus: a meta-analysis. *Gut* doi:10.1136/gutjnl-2011-300730

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