

From the Literature

Brush Biopsy Plus Forceps Biopsy Increase Detection Of Barrett's Esophagus and Dysplasia, Two Studies Report

BY CHRISTINA FRANGOU

Two studies published in the March edition of *Digestive Diseases and Sciences* show that performing a brush biopsy in addition to a standard forceps biopsy can increase detection of Barrett's esophagus (BE) and dysplasia by 40%.

"The fact that the brush biopsy with computer-assisted tissue analysis was found to increase detection by over 40%, in even these highly experienced esophageal GI [gastrointestinal] specialty centers, demonstrates the potential of this technique," said Sharmila Anandasabapathy, MD, chief of endoscopy at Mount Sinai Medical Center in New York City, and lead author of one of the studies.

In the first prospective study, 1,266 patients underwent screening for BE and dysplasia at community practices (Johanson JF et al. *Dig Dis Sci* 2011;56:767-772). Each patient had two brush biopsies, as well as random four-quadrant forceps biopsies every 1 to 2 cm of the esophagus. Adding brush biopsies increased overall detection of BE by 39.8% (95% confidence interval [CI], 0.32%-0.48%), after an additional 146 cases were identified by this technique. "These results suggest that adjunctive computer-assisted analysis of an abrasive brush biopsy has the potential to substantially improve the detection of Barrett's esophagus and dysplasia in screening populations," the authors concluded.

In the second study, 151 patients (124 men; mean age, 65 years) with known BE underwent brush and forceps biopsies to test for dysplasia (Anandasabapathy S et al. *Dig Dis Sci* 2011;56:761-766). In this multicenter study, brush biopsies increased dysplasia detection by 42.1% (95% CI, 20.7%-72.7%). The number needed to test to detect one additional case of dysplasia was 9.4.

Neither study was designed to determine if brush biopsy could substitute for or was preferable to forceps biopsy.

Brush biopsy could be a technology used regularly in the future, especially for patients with established BE with dysplasia, said John P. Lynch, MD, assistant professor of medicine at the University of Pennsylvania, in Philadelphia, who was not affiliated with the study.

"It is an exciting technology with the capacity to increase the detection of dysplasia in high-risk Barrett's esophagus patients. The computer algorithms can add a degree of quantitation to the

diagnosis of dysplasia, enhancing the largely subjective criteria utilized by experienced pathologists to diagnose dysplasia in Barrett's," he said.

Dr. Lynch added that the technology raises interesting research questions for the future: "Are forceps biopsies as insensitive for the detection of Barrett's metaplasia

as these studies suggest, and if so, why? Is it short-segment Barrett's that is largely underdiagnosed by forceps biopsy? Or is the brush biopsy instead detecting intestinal metaplasia from the gastric cardia?"

He cautioned that more research is required to establish the utility of brush biopsies in low-risk BE screening endoscopies.

"In particular, we will need to figure out how to manage patients in which the traditional forceps biopsy studies were negative for Barrett's esophagus and dysplasia but brush-biopsy results were positive for both."

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