

Anandasabapathy S, Sontag S, Graham DY, et al. Computer-assisted brush-biopsy analysis for the detection of dysplasia in a high-risk Barrett's esophagus surveillance population. Dig Dis Sci 2011;56:761-6.

BACKGROUND: Barrett's epithelial dysplasia, the direct precursor to esophageal adenocarcinoma, is often unapparent and frequently missed during surveillance of Barrett's esophagus with four-quadrant forceps biopsy protocol.

AIM: To determine whether the detection of dysplasia is improved by adding computer-assisted brush biopsy (EndoCDx©) to four-quadrant biopsy protocol.

METHODS: Patients with a history of Barrett's esophagus with dysplasia scheduled for endoscopic surveillance were recruited from four academic medical centers. Patients underwent brush biopsy followed by four-quadrant biopsy every 1-2 cm. The results from brush and forceps biopsy were reviewed independently by pathologists blinded to the other's results.

RESULTS: Among 151 patients enrolled (124 men, 27 women; mean age: 65), 117 (77.5%) had forceps and brush-biopsy specimens adequate for interpretation. The mean number of forceps biopsies was 11.9 (median 10, range 2-40) and brush biopsies was 2.0 (median 2, range 1-4). The overall yield of forceps alone was 25.2% (n = 38). Brush biopsy added an additional 16 positive cases increasing the yield of dysplasia detection by 42% (95% CI: 20.7-72.7). The number needed to test (NNT) to detect one additional case of dysplasia was 9.4 (95% CI: 6.4-17.7). There were no significant differences in results among different centers, between standard versus jumbo forceps, or between forceps biopsies taken every 1 cm versus every 2 cm.

CONCLUSIONS: These data suggest that computer-assisted brush biopsy is a useful adjunct to standard endoscopic surveillance regimens for the identification of dysplasia in Barrett's esophagus.

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