Changes in Colorectal Adenomas: Secondary Analysis of Clinical Trial Data

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Introduction
Colorectal cancer is the third most common cancer in the United States among men and women combined. Colonoscopy has improved early detection of colorectal polyps before they develop into cancer, and several clinical trials have been conducted to test methods of colorectal cancer prevention by reducing polyp formation.

Purpose: Determine if there were significant changes in colorectal polyp characteristics across the baseline measurements of three clinical trials over time.

Methods
This study is a secondary analysis of data collected from 4,320 participants from the WBF, UDCA, and SEL trials. Demographics, baseline measures of BMI, and measurements of the size and location of colorectal polyps were collected. Linear regression models and chi-square analyses were used to measure changes in polyp characteristics as measured by the number of adenomas present at the baseline colonoscopy, and the size and location of those adenomas, and the presence of multiple adenomas in the three trials.

Results
Our results indicate that there was a statistically significant difference in the characteristics of colorectal polyps across baseline measurements of the three clinical trials. The proportion of individuals with ≥3 adenomas found at the time of baseline colonoscopy has statistically significantly increased over time, with a proportion of 12.2%, 13.9%, and 18.5% for WBF, UDCA, and SEL, respectively (p < 0.0001). Baseline adenoma size (mm) also differed significantly over time, with larger adenomas detected in WBF (8.3 ± 5.9) and UDCA (8.9 ± 5.9) as compared to SEL (7.8 ± 5.5; p < 0.0001). Adjustment for age and body mass index had no effect on the point estimates.

There have been significant changes in the characteristics of colorectal adenomas over the last twenty years, and these changes may be associated with changes in patient characteristics.