Background and Aims

- The occurrence of hyperplastic polyps during colonoscopy is usually considered an incidental finding of little or no clinical significance.
- We pursued the hypothesis that diagnosis of hyperplastic polyps on index colonoscopy predicted the occurrence of adenomatous polyps on follow-up colonoscopy.

Methods

- Miraca Life Sciences is a centralized pathology laboratory that serves 1,500 gastroenterologists distributed throughout the United States with more than 400,000 pathology specimens processed annually.
- From its computerized database, we selected 13,929 subjects who were represented in the database by two consecutive colonoscopies. On the first colonoscopy, patients harbored only hyperplastic polyps (3,000 subjects) or no polyps at all (10,929 subjects).
- In a case-control study, we compared whether the occurrence of adenomatous polyps on second colonoscopy (in 2,549 subjects) was influenced by the initial diagnosis of hyperplastic polyps on first colonoscopy.
- Odds ratios (OR) and their 95% confidence intervals (CI) were calculated to describe the strengths of the associations between various types of colonic neoplasms. Multivariate logistic regression was used to adjust the odds ratios for age, sex, and other patient characteristics.

Results

The prevalence of hyperplastic polyps on first colonoscopy was similar in males and females, 22% vs. 21%, respectively. Males harbored more adenomatous polyps on second colonoscopy, 20% vs. 17%, respectively, with OR = 1.27, 1.17-1.39.

The prevalence of hyperplastic and adenomatous polyps both increased with older age. Compared with hyperplastic polyps the age distribution of adenomatous polyps was shifted towards older age groups, with mean ages (SD) of 59.9 (11.7) vs. 62.8 (11.3) years and t = 9.19, p<0.001.

Increasingly longer time intervals between the first and second colonoscopy were associated with a significant increase in the diagnosis of adenomatous polyps during the second colonoscopy.

The finding of hyperplastic polyps during the first colonoscopy was significantly associated with the occurrence of colonic neoplasms on second colonoscopy, the odds ratios (CI) being 3.06 (2.79-3.36) for any type of adenoma, 2.14 (1.71-2.66) for advanced adenoma, and 6.85 (5.44-8.62) for sessile serrated adenoma.

Characteristics of patients with hyperplastic polyps (during first colonoscopy) and outcomes of second colonoscopy. Patients with hyperplastic polyps were older than patients without hyperplastic polyps. Hyperplastic polyps (on first colonoscopy) were associated with an increased risk for any type of adenoma, serrated adenoma and advanced adenoma (on second colonoscopy).

The age-specific prevalence of hyperplastic and adenomatous polyps increased with age. Compared with hyperplastic polyps the age distribution of adenomatous polyps was shifted towards older age groups.

Increasingly longer time intervals (in days) between the first and second colonoscopy were associated with an increase in the prevalence of adenomatous polyps found during the second colonoscopy.

Study Highlights

- Male sex, old age, length of interval between the two colonoscopies, and presence of hyperplastic polyps during the initial colonoscopy were all positive and statistically significant predictors for the diagnosis of any adenoma during the second colonoscopy.
- The presence of hyperplastic polyps may indicate a general underlying tendency of the colonic mucosa for neoplastic growth.