Background and Aims

It is unknown whether the subtypes of microscopic colitis represent distinct nosologic entities or related presentations of the same disease. Our aim was to search for epidemiologic differences and similarities among its various histopathologic subtypes, such as lymphocytic, collagenous, and incomplete colitis.

Methods

The results of surgical pathology from 789,568 unique patients undergoing colonoscopy with biopsy were stored in an electronic database at Miraca Life Sciences, a specialized gastrointestinal laboratory, serving private and public outpatient endoscopy centers distributed throughout the entire United States. Over 1,500 individual gastroenterologists contributed to the database between Jan 2000 and Dec 2011. The occurrence of lymphocytic, collagenous, or incomplete colitis was expressed as proportional rate per 1000 colonoscopies. The geographic distributions of each two subtypes were compared using linear-square linear regression analyses. Differences in age among the three subtypes were compared using analysis of variance. Differences in gender distribution among the three subtypes were compared using chi-square analysis. Varying frequencies of occurrence between cases (with microscopic colitis) and controls (without microscopic colitis) were compared, calculating odds ratios and their 95% confidence intervals.

Results

Microscopic colitis was diagnosed as three distinct histopathologic subtypes, that is, lymphocytic colitis (LC) in 51%, collagenous colitis (CC) in 43%, and incomplete colitis (IC) in 6% of patients. Only 0.65% were simultaneously diagnosed with more than one subtype of microscopic colitis. The prevalence of all three subtypes showed an age-dependent rise, with the average age (SD) being 63.3 (14.3) yrs in LC, 66.4 (12.1) yrs in CC, and 67.3 (12.7) yrs in IC (p<0.0001). There was a striking female predominance in all three subtypes, the female fraction being 72% in LC, 82% in CC, and 79% in IC (p<0.0001). All three subtypes showed similar geographic distributions among different US states. They were similarly associated with diarrhea and weight loss, the odds ratios for all microscopic colitis being 45.92 (43.35-48.63) and 5.12 (4.68-5.60), respectively. All three subtypes also harbored significantly less colonic adenomas, the overall odds ratio being 0.11 (0.10-0.12).

Conclusions

- Microscopic colitis comes in three distinct histopathologic entities, which show striking similarities of their general epidemiologic features.
- Subtle, but statistically significant differences with respect to their age and sex distributions, as well as their geographic variations, may point at varying sets of environmental influences that affect the occurrence of the three subtypes of microscopic colitis.
- The inverse relationship between the presence of colonic adenoma and microscopic colitis was found similarly in all three subgroups of patients, adding credence to its overall relevance.