Does the Presence of Endometrial Polyp Predict Colorectal Polyp?

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ABSTRACT

Introduction: Endometrial polyps (EPs) and colorectal polyps (CPs) are common disorders and the incidence of both increase rapidly with aging. CPs are focal lesions and incidence increases with age.

Aim: In this study, we aimed to analyze retrospectively the relationship between the EPs and CPs sharing similar clinical and genetic factors in their etiopathogenesis.

Materials and Methods: This study was retrospectively performed between 2010 and 2013 and it included patients diagnosed to have eEPs. The study group and the control group consisted of patients who were diagnosed with or without EPs and who underwent colonoscopy at the same period.

Results: The study group was formed by 57 patients with diagnosis of EP who underwent colonoscopy during the same period. The control group consisted of 71 patients without EP examined with colonoscopy. Among 128 patients assessed in this study, 24 were diagnosed with CPs, all of which were adenomatous polyps smaller than 1 cm. No hyperplastic or inflammatory polyps were diagnosed. While 18 of 57 patients with EPs had CPs, 6 of 71 control subjects had CPs. Hence, the risk of having CP was 5 times greater in patients with EP compared to those without ($P < 0.05$).

Conclusion: The present study demonstrated that the prevalence of CPs increased significantly in postmenopausal patients with EPs. Recommending colonoscopy to these patients irrespective of age may be beneficial for detecting more CPs and preventing colorectal cancer.

Key Indexing Terms: Endometrial polyp; Colorectal polyp; Colonoscopy; Menopause. **[Am J Med Sci 2016;351(2):129–132.]**

INTRODUCTION

Endometrial polyps (EPs) and colorectal polyps (CPs) are common disorders and the incidence of both increase rapidly with aging. EPs are excretions of endometrium containing focally overproliferated glands and stromal tissue. They are covered with epithelial cells and contain thick-walled vessels. Their prevalence depends on the screening method and the population studied.[1] Although their pathogenesis is not entirely clear, they have high estrogen sensitivity.[2] EPs can develop in every age group, although their incidence is substantially higher between the age of 40 and 55 years. They can be asymptomatic or may cause abnormal uterine bleeding, pelvic pain and infertility.[3] Despite their benign characteristics, they may show malignant changes in postmenopausal period.[4]

CPs are focal lesions projecting into intestinal lumen. Their incidence increases after the age of 50 years. About two-thirds of CPs have an adenomatous tissue structure and nearly all colon cancers develop on the basis of adenomatous tissue.[5] Colorectal cancer (CRC) is a common and deadly disease. Removal of potentially premalignant adenomas can prevent future cancer, and elimination of localized cancer may reduce cancer-related deaths.[6]

Considering that 70% of CRC cases are sporadic, it is important to determine all factors predicting the precancerous properties of polyps. As our clinical observation suggests an increased prevalence of CPs in patients with EPs, we aimed to investigate the co-occurrence of EPs and CPs. Our literature search did not reveal studies specifically sought for the simultaneous occurrence of these 2 conditions. We retrospectively analyzed the relationship between the 2 potentially premalignant conditions sharing similar clinical and genetic factors in their etiopathogenesis.

MATERIALS AND METHOD

This study was retrospectively performed in Baskent University Konya Hospital between 2010 and 2013 and it included patients diagnosed to have EPs. The study group consisted of patients who were diagnosed with EPs and who underwent colonoscopy at the same period. The control group was composed of the patients who underwent hysterectomy and had no EPs in histopathological examination and who underwent colonoscopy at the same period. Endometrial and colorectal pathology samples were examined by the same pathologist. Colonoscopic examination, the number and size of polyps and the histopathologic type of the polyps for all patients were analyzed. Age, menopausal state, body mass index, comorbidities, history of smoking, aspirin or oral contraceptive use and family history of EPs or CPs or cancers were evaluated. Demographic and clinical characteristics of patients for the study and control

TABLE 1. Demographic and clinical characteristics of patients.

	Patients with EP ($n = 57$)	Patients without EP ($n = 71$)
Age (years)	45 ± 7	47 ± 9
Patients with CP	18	6
Postmenopausal	16	24
The number of patients with BMI ≥ 25 kg/m^2	41	44
History of HRT	5	6
History of Tamoxifen use	0	0
Family history of endometrial cancer	1	1
Family history of colorectal cancer	3	6
Smoking habit	6	8
Comorbidity (DM or HTN or both)	9	14
Aspirin use	5	4

BMI, Body mass index; HRT, hormone replacement therapy; HTN, hypertension.

groups are presented in Table 1. Patients with inflammatory bowel disease, previous EPs or CPs, colon or endometrial cancer or missing data about risk factors were excluded (Table 2).

For continuous data, comparison of groups was made by Student's *t* test, and results were given as the mean ± standard deviation. Pearson chi-square test was used to test for association of categorical variables. The relationship between the presences of EPs and CPs was evaluated with the odds ratio method. The risk factors were analyzed using the multiple logistic regression analysis. Data were statistically analyzed using SPSS software (Statistical Product and Services Solutions, version 17.0, SPSS Inc, Chicago, IL). Values of $P < 0.05$ were considered statistically significant.

RESULTS

The medical data of 580 patients who received a histopathological diagnosis of EP between 2010 and 2013 were retrospectively screened and the study group was formed by 57 patients who underwent colonoscopy during the same period. The control group consisted of 71 patients examined with colonoscopy during the same period, who were chosen from 374 patients having no EPs on histopathological examination of hysterectomy materials. Among 128 patients assessed in this study, 24 were diagnosed with CPs, all of which were adenomatous polyps smaller than 1 cm. No hyperplastic or inflammatory polyps were diagnosed. While 18 of 57 patients with EPs had CPs, 6 of 71 control subjects had CPs. Hence, the risk of having CP was 5 times greater in patients with EP compared to those without (odds ratio = 5.00, $P < 0.05$). Mean age and menopausal state were not significantly different between the subjects with EP and the patients without ($P > 0.05$).

Following the demonstration of a significant relationship between EP and CP, a multiple logistic regression analysis was performed to determine the risk factors for CP in patients with EP. In patients with EP the risk factors for having CP were age, menopausal state, body mass index, history of hormone replacement therapy, smoking status, comorbidity (hypertension, diabetes mellitus [DM], etc.), aspirin use and the family history of EPs or CPs or cancer.

As presented in Table 1, the risk of CP was 3.32 times greater in EP patients older than 50 years compared to those younger than 50 years (odds ratio = 3.32, $P < 0.05$). In addition, the risk of CP development was 4.57 times greater in postmenopausal EP patients compared to their premenopausal counterparts (odds ratio = 4.57, $P < 0.05$). Our data suggest that no other variables were significantly related to the risk of CP development in EP patients. It was of note that the risk of CP increased by increasing body mass index, although this correlation did not reach statistical significance (odds ratio = 2.5, $P > 0.05$). Similarly, history of hormone replacement therapy reduced the risk of CP, although this correlation was not statistically significant (odds ratio = 0.5, $P > 0.05$). Patients with EP who smoke had virtually the same risk for having CP as those who do not ever smoke (odds ratio = 1, $P > 0.05$). Having DM or hypertension or use of aspirin insignificantly increased the risk of CP development in patients with EP (odds ratio = 1.79, $P > 0.05$; odds ratio = 1.5, $P > 0.05$, respectively). A family history of endometrial or CPs or cancer similarly did not significantly increase the risk of CP (odds ratio = 0, $P > 0.05$; odds ratio = 0.4, $P > 0.05$, respectively).

DISCUSSION

We performed this study to determine the prevalence of CP in patients having EP. It revealed a significant correlation between EP and CP such that the presence of EP was associated with a 5-time increased prevalence of CP. We also determined that age and menopausal state predicted the presence of CP in patients with EP. However, we failed to demonstrate a relationship between CP and diabetes, hypertension, and obesity on multivariate analysis.

TABLE 2. Multivariate logistic regression analysis results to identify the risk factors associated with CP in EP patients.

Risk factor	Odds ratio	*P* Value
Age group	3.32	<0.001
Menopausal state	4.57	<0.001
Body mass index	2.5	>0.675
History of hormone replacement therapy	0.5	>0.056
Smoking status	1.09	>0.134
Comorbidity	1.79	>0.155
Aspirin use	1.5	>0.125
Family history of endometrial cancer	0	>0.534
Family history of colon cancer	0.4	>0.062