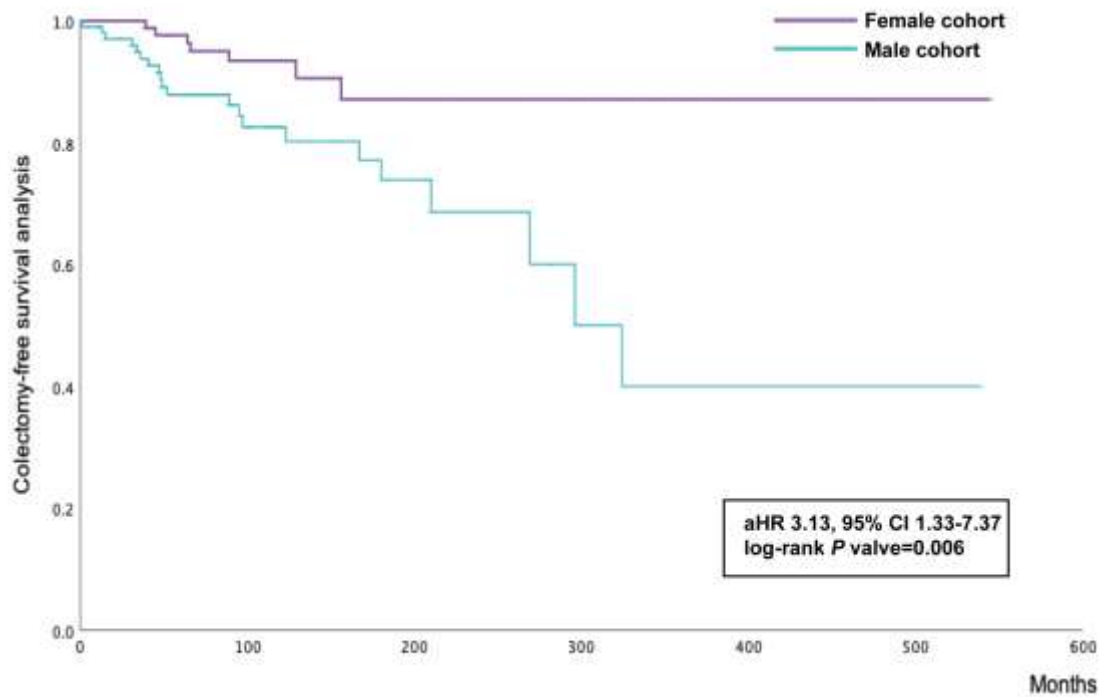


Supplementary Figure 1 Kaplan-Meier cumulative survival curves for endoscopic mucosal healing: comparison between female and male mild-to-moderate-activity UC patients after 1:1 propensity score matching. aHR: Adjusted hazard ratio.



Supplementary Figure 2 Kaplan-Meier colectomy-free survival curves: comparison between female and male mild-to-moderate-activity UC patients after 1:1 propensity score matching. aHR: Adjusted hazard ratio.

Supplementary Table 1 Person-time counts of organ systems involved among 84 UC patients with extraintestinal manifestations

Involved organs	All (<i>n</i> = 110)	Female cohort (<i>n</i> = 45)	Male cohort (<i>n</i> = 65)
Hepatic manifestation ^a	5	1	4
Ocular manifestation	10	3	7
Articular manifestation	49	24	25
Dermatologic manifestation ^b	46	17	29

^aIncludes primary sclerosing cholangitis and autoimmune hepatitis. ^bIncludes erythema nodosum, pyoderma gangrenosum, and oral ulcers. Due to the high prevalence of anemia, it is not included in the statistics.

Supplementary Table 2 Comparison of malignancies between the female and male cohorts before and after propensity score matching (PSM)

	Before PSM			After PSM		
	Female cohort (<i>n</i> = 15)	Male cohort (<i>n</i> = 21)	<i>P</i> value ^a	Female cohort (<i>n</i> = 9)	Male cohort (<i>n</i> = 14)	<i>P</i> value ^a
<i>Colorectal cancer</i>	2	11	0.033	1	7	0.086

<i>Extra-colorectal malignancies</i>	13	10	8	7
Thyroid cancer	5	5	4	4
Renal cell carcinoma	1	1	1	0
Breast cancer	2	0	1	0
Prostate cancer	0	1	0	1
Endometrial cancer	1	0	1	0
Leukemia	0	2	0	2
Ovarian cancer	2	0	0	0
Pancreatic cancer	1	0	1	0
Lung cancer	1	1	0	0

^aFor intergroup comparisons, Fisher's exact test was conducted.

Supplementary Table 3 Baseline characteristics of *mild-to-moderate-activity* female and male UC patients treated with 5-ASA before and after propensity score matching (PSM)

Before PSM

After PSM

	Female cohort (n = 136)	Male cohort (n = 164)	SMD	Female cohort (n = 104)	Male cohort (n = 104)	SMD
<i>Demographics</i>						
Follow-up period (mean ± SD, years)	10.6±8.9	9.9±8.2	0.08	10.3±8.1	10.8±8.9	0.06
Age at onset (mean ± SD, years)	34.8±11.4	36.4±14.0	0.12	34.8±11.9	33.8±13.2	0.08
Disease duration (mean ± SD, years)	14.2±8.7	13.6±7.9	0.07	13.9±7.9	14.4±8.7	0.06
Smoker	3(2.2%)	57(34.8%)	0.92	3(2.9%)	3(2.9%)	0
BMI ≥ 24 kg/m ²	61(44.9%)	99(60.4%)	0.31	48(46.2%)	53(50.0%)	0.1
<i>Comorbid conditions</i>						
Diabetes mellitus	9(6.6%)	13(7.9%)	0.05	9(8.7%)	9(8.7%)	0
Hypertension	12(8.8%)	29(17.7%)	0.26	10(9.6%)	13(12.5%)	0.09
NAFLD	2(1.5%)	5(3%)	0.11	1(1%)	1(1%)	0
EIMs	16(11.8%)	21(12.8%)	0.03	12(11.5%)	12(11.5%)	0

Opportunistic infections ^a	28(20.6%)	29(17.7%)	0.07	20(19.2%)	17(16.3%)	0.08
<i>Disease extent</i>						
Proctitis	53(39%)	65(39.6%)	0.01	45(43.3%)	42(40.4%)	0.06
Proctosigmoiditis	65(47.8%)	79(48.2%)	0.007	44(42.3%)	48(46.2%)	0.08
Pancolitis	18(13.2%)	20(12.2%)	0.03	15(14.4%)	14(13.5%)	0.03
<i>Labs (mean ± SD)</i>						
C-reactive protein (mg/L)	15.4±31.0	15.5±30.2	0.003	13.9±29.8	12.5±27.6	0.05
<i>Accompanying medication</i>						
Aspirin	1(0.7%)	6(3.7%)	0.2	1(1%)	2(1.9%)	0.08
Lipid-lowering drugs	5(3.7%)	9(5.5%)	0.09	4(3.8%)	5(4.8%)	0.05
Antibiotic	44(32.4%)	45(27.4%)	0.11	28(26.9%)	24(23.1%)	0.09
<i>5-ASA regimen</i>						
Oral 5-ASA dose/ day						
≤ 2 g	72(52.9%)	85(51.8%)	0.02	58(55.8%)	53(51%)	0.09
> 2 g	64(47.1%)	79(48.2%)	0.02	46(44.2%)	51(49%)	0.1

Number of oral 5-ASA treatments/day						
1-2	55(40.4%)	78(47.6%)	0.14	43(41.3%)	44(42.3%)	0.02
> 2	81(59.6%)	86(52.4%)	0.14	61(58.7%)	60(57.7%)	0.02
Combination of enema and suppository	75(55.1%)	82(50%)	0.1	54(51.9%)	49(47.1%)	0.09
<i>UC medication use^b</i>						
Systemic steroids	62(45.6%)	86(52.4%)	0.14	45(43.3%)	47(45.2%)	0.04
Any steroid	82(60.3%)	88(53.7%)	0.13	61(58.7%)	57(54.8%)	0.08
Immunomodulators	40(29.4%)	43(26.2%)	0.07	28(26.9%)	24(23.1%)	0.09
Biologics	20(14.7%)	19(11.6%)	0.09	18(17.3%)	16(16.4%)	0.05

^aIncludes intestinal infections caused by *Clostridioides difficile*, cytomegalovirus, and Epstein-Barr virus. ^bSimultaneous or subsequent use on prescription of 5-ASA. UC: Ulcerative colitis; 5-ASA: 5-Aminosalicylic acid; BMI: Body mass index; DAI: Disease Activity Index; EIMs: Extraintestinal manifestations; NAFLD: Non-alcoholic fatty liver; g: Grams; mg: Milligrams; SD: Standard deviation; SMD: Standard mean difference.

Supplementary Table 4 Comparison of 5-ASA treatment outcomes between female and male mild-to-moderate-activity UC patients after 1:1 propensity score matching

	Female cohort (<i>n</i> = 104)	Male cohort (<i>n</i> = 104)	aOR	95% CI	<i>P</i> value
Frequency of UC flare-up in per year					
≤ 2	71(68.3%)	60(57.7%)	1.58	0.90-2.78	0.12
> 2	33(31.7%)	44(42.3%)			
EMR (<i>n</i> = 133)	71(68.3%)	62(59.6%)	0.69	0.39-1.21	0.20
EMH (<i>n</i> = 61)	38(36.5%)	23(22.1%)	0.49	0.27-0.91	0.02
Serious complications (<i>n</i> = 38)	12(11.5%)	26(25%)	2.56	1.21-5.40	0.01
Colectomy (<i>n</i> = 28)	7(6.7%)	21(20.2%)	3.51	1.42-8.66	0.007
Malignancies ^a (<i>n</i> = 12)	4(3.8%)	8(7.7%)	2.08	0.61-7.15	0.24

^aIncludes colorectal cancers and extracolorectal malignancies. 5-ASA: 5-Aminosalicylic acid; EMR: Endoscopic mucosal remission; EMH: Endoscopic mucosal healing; aOR: Adjusted odds ratio; CI: Confidence interval.

Supplementary Table 5 Univariate and multivariate Cox regression analysis of endoscopic mucosal healing (EMH) and colectomy in mild-to-moderate-activity ulcerative colitis patients receiving 5-ASA treatment after 1:1 propensity score matching

Variables	Univariate analysis			Multivariate analysis				
	EMH (<i>n</i> = 61)		Colectomy (<i>n</i> = 28)	EMH (<i>n</i> = 61)		Colectomy (<i>n</i> = 28)		
	aHR CI)	(95% P value	aHR CI)	(95% P value	aHR CI)	(95% P value		
Male sex	0.57(0.34- 0.95)	0.03	3.13(1.33- 7.37)	0.01	0.59(0.35- 0.99)	0.049	3.87(1.63- 9.18)	0.002
Age at onset (mean ± SD)	0.99(0.97- 1.01)	0.56	1.04(1.01- 1.07)	0.01	—	—	1.05(1.02- 1.08)	0.001
Disease duration (mean ± SD)	0.83(0.78- 0.89)	< 0.001	0.93(0.87- 0.99)	0.03	0.84(0.78- 0.89)	< 0.001	—	—
Smoker	0.048(0-56.84)	0.4	3.58(0.84- 15.25)	0.09	—	—	—	—
BMI ≥ 24 kg/m ²	0.49(0.29- 0.83)	0.008	2.74(1.16- 6.46)	0.02	0.58(0.34- 0.99)	0.05	—	—
Disease extent	1.23(0.86- 1.77)	0.27	0.81(0.47- 1.42)	0.46	1.15(0.79- 1.67)	0.46	—	—

Advanced therapy ^a	0.63(0.38- 1.05)	0.07	1.85(0.78- 4.39)	0.16	0.74(0.44- 1.26)	0.27	—	—
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^aSimultaneously using or subsequent addition of systemic steroid, immunosuppressants, or biologics on prescription of 5-ASA. UC: Ulcerative colitis; 5-ASA: 5-Aminosalicylic acid; BMI: Body mass index; SD: Standard deviation; aHR: Adjusted hazard ratio; CI: Confidence interval.