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Early Endoscopic Remission Predicts Fewer Long-Term Complications in Ulcerative Colitis: Real-World Analysis From Target-IBD Registry

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Background

- Achieving endoscopic remission has emerged as a central treatment end point in ulcerative colitis (UC) management[1]
- Several studies have demonstrated its association with improved disease control and reduced risk of relapse
- However, real-world evidence on the consequences of achieving remission early in the treatment course – a key treat-to-target goal – remains limited
- Understanding whether early endoscopic remission translates into meaningful long-term benefits is critical for optimizing treatment strategies
- This study examined the association between achieving early endoscopic remission following the initiation of advanced therapy and a reduction in UC-related complications during long-term follow-up

Methods

Data source

- TARGET-IBD: US longitudinal registry of patients with inflammatory bowel disease across 13 community-based and 23 academic sites

Study population

- Adults with clinician-diagnosed UC initiating a new advanced therapy between October 2014 and September 2021 and who had at least 1 endoscopy 3-12 months after advanced therapy initiation

Early endoscopic remission (3-12 months after advanced therapy initiation)

- Inactive disease (Mayo endoscopic subscore = 0 or equivalent narrative report)
- Assessed on post-initiation endoscopy

Outcomes

- Surgery, hospitalization, and rescue corticosteroid use

Follow-up

- From advanced therapy initiation (index) until death, registry withdrawal, loss to follow-up, or end of study

Analysis

- Cumulative counts over 3 years were estimated using a cumulative count estimator for right-censored data
- Adjustment for baseline characteristics, censoring, and missingness using inverse probability weighting
- Effect estimates are adjusted cumulative count differences (early vs no remission) with bootstrapped 95% confidence intervals (CIs)

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Patient characteristics

Table 1. Baseline characteristics of UC patients initiating advanced therapy, overall and by remission status[a,b]

Characteristic	Total (n=298)	Early remission (n=90)	No remission (n=208)
Age at index, n (%)[c]			
18-49 years	195 (65.4)	62 (68.9)	133 (63.9)
50-64 years	63 (21.1)	19 (21.1)	44 (21.2)
65+ years	40 (13.4)	9 (10.0)	31 (14.9)
Sex, n (%)			
Female	163 (54.7)	54 (60.0)	109 (52.4)
Male	135 (45.3)	36 (40.0)	99 (47.6)
Race, n (%)			
Asian	1 (0.3)	0 (0.0)	1 (0.5)
Hispanic/Latinx	16 (5.6)	7 (8.0)	9 (4.5)
Non-Hispanic Black	23 (8.0)	6 (6.8)	17 (8.6)
Non-Hispanic White	238 (83.2)	71 (80.7)	167 (84.3)
Other	8 (2.8)	4 (4.5)	4 (2.0)
Insurance type, n (%)			
Private	214 (76.7)	69 (86.2)	145 (72.9)
Other	65 (23.3)	11 (13.8)	54 (27.1)
Age at diagnosis, n (%)			
A1: <17 years	24 (8.2)	6 (6.8)	18 (8.9)
A2: 17-40 years	179 (61.5)	54 (61.4)	125 (61.6)
A3: >40 years	88 (30.2)	28 (31.8)	60 (29.6)
Disease duration, years (IQR)[d]	5 (2, 12)	6 (2, 12)	5 (2, 11)
Advanced therapy class at index			
Anti-TNF alpha	152 (51.0)	46 (51.1)	106 (51.0)
Anti-integrin agents	100 (33.6)	33 (36.7)	67 (32.2)
Anti-IL-12/23 agents	19 (6.4)	5 (5.6)	14 (6.7)
JAK inhibitors	27 (9.1)	6 (6.7)	21 (10.1)
Line of advanced therapy			
1st line	183 (61.4)	60 (66.7)	123 (59.1)
2nd line or later	115 (38.6)	30 (33.3)	85 (40.9)
UC phenotype			
Left-sided colitis	89 (31.7)	28 (33.7)	61 (30.8)
Proctitis	19 (6.8)	8 (9.6)	11 (5.6)
Extensive/pancolitis	173 (61.6)	47 (56.6)	126 (63.6)
Any extraintestinal manifestations (EIMs), n (%)	135 (45.3)	41 (45.6)	94 (45.2)
Comorbidities, n (%)			
Inflammatory arthritis (RA, PsA, gout, SLE, fibromyalgia)	18 (6.0)	5 (5.6)	13 (6.2)
Anemia	93 (31.2)	27 (30.0)	66 (31.7)
Tobacco use (current or former)	96 (32.2)	25 (27.8)	71 (34.1)

[a]Values are n (%) for categorical variables and median (IQR) for continuous variables.
[b]Percentages may not sum to 100% due to rounding.
[c]Index date = the date of initiation of advanced therapy; baseline period = the 6 months prior to index.
[d]Approximation based on year of diagnosis.

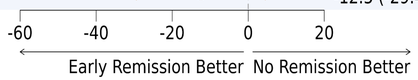
IL, interleukin; IQR, interquartile range; PsA, psoriatic arthritis; RA, rheumatoid arthritis; SLE, systemic lupus erythematosus; TNF, tumor necrosis factor.

Results

- **Sample size:** 298 patients initiating advanced therapy for UC
- **Median follow-up**: 57 months (interquartile range, 43-68)
- **Advanced therapies at index**: anti–tumor necrosis factor alpha (51%), anti-integrin agents (34%), anti–interleukin 12/23 agents (6%), and JAK inhibitors (9%) (**Table 1**)
- **Disease characteristics at index (Table 1)**
  - Left-sided colitis (32%), proctitis (7%), and extensive/pancolitis (62%)
  - Disease duration: 5 years (interquartile range, 2-12)
- Early endoscopic remission was achieved by 90 patients (30%)
- By 3 years after initiation of advanced therapy, early remitters had lower cumulative counts of UC-related complications than nonremitters (**Figure 1**)
- By 3 years, early remitters experienced:
  - 24 fewer surgeries or hospitalizations per 100 patients (16.6 vs 40.8; adjusted difference, −24.2; 95% CI, −47.5 to −1.0)
  - 13 fewer rescue steroid prescriptions per 100 patients (15.9 vs 28.4; adjusted difference, −12.5; 95% CI, −29.4, 4.5)

Figure 1. Adjusted number of events per 100 patients within 3 years of initiation of a new advanced therapy[a]

Outcome	No Remission	Early Remission	Difference (95% CI)
Surgery	10.6	4.1	-6.5 (-14.3, 1.3)
Hospitalization	30.2	12.5	-17.7 (-35.8, 0.3)
Surgery or hospitalization	40.8	16.6	-24.2 (-47.5, -1.0)
Rescue steroid use	28.4	15.9	-12.5 (-29.4, 4.5)



[a]Adjusted for baseline characteristics, censoring, and missingness through inverse probability weighting. Propensity score model variables included age at index, sex, race, insurance type, age at diagnosis, advanced therapy class at index, line of advanced therapy, UC phenotype, presence of any EIM, anemia, tobacco use, geographic region, BMI category, albumin level, hemoglobin level, and use of antibiotics, biologics/biosimilars, small molecules, immunomodulators, or steroids during baseline period.

Conclusions

- In this real-world UC cohort, endoscopic remission within 3-12 months of advanced therapy initiation was associated with substantially fewer complications over 3 years
- Findings support the attainment of early endoscopic remission as an important treatment target and suggest that timely remission may improve long-term disease outcomes

References

1. Turner D, et al. *Gastroenterology*. 2021;160(5):1570-1583.

https://bit.ly/4sZoVVP