Early Biologic or Small Molecule Therapy Initiation After Index Hospitalization for an Ulcerative Colitis Flare Prevents Re-Hospitalization

Gursimran S Kochhar MD[1], Aakash Desai MD[2], Raymond Cross MD[3], Corey A. Siegel MD[4], Stephen B Hanauer MD[5], Parambir S. Dulai MD[5]

1:Division of Gastroenterology, Hepatology & Nutrition, Allegheny Health Network, PA
2:Division of Gastroenterology and Hepatology, MetroHealth Medical Center, Case Western Reserve University, Cleveland, OH
3: Division of Gastroenterology, Hepatology & Nutrition, University of Maryland, MD
4: Division of Gastroenterology, Hepatology & Nutrition, Dartmouth-Hitchcock Medical Center, Lebanon, NH

BACKGROUND

- Ulcerative colitis (UC) patients hospitalized for acute flares are at an increased risk for re-hospitalization.
- A recent RAND panel recommended early (within 3 months) biologic or small molecule therapy initiation post-discharge; however, evidence supporting this strategy is limited.
- We aimed to quantify the impact of early biologic or small molecule therapy initiation post-discharge on the risk of re-hospitalization in UC patients

METHODS

- A retrospective cohort study was conducted using TriNetX, a multi-institutional database of more than 70 million patients in the USA.
- We included UC patients with no prior exposure to biologics or small molecules, hospitalized for the first time, and started on intravenous steroids.
- We compared re-hospitalization rates for a UC flare at 1- and 2 years based on the timing of medical therapy initiation in-hospital or post-discharge.
- 1:1 propensity-score matching was performed for age, gender, race, ethnicity, BMI, baseline Hemoglobin (Hgb), C-reactive protein (CRP), and albumin.
- Odds ratios (OR) with 95% confidence interval (CI) were calculated

Table 1: Risk of malignancy and opportunistic infections in patients with IBD on UST compared to other biologic or small molecule therapy and 5-ASA agents expressed as adjusted odds ratio (aOR) with 95% confidence interval (CI)

Outcome	Timing	N (%)	aOR	95% CI
1-year				
Repeat hospitalization	Late biologic	103 (46.1%)	1.47	1.01 – 2.15
	Early biologic	82 (36.7%)		
Repeat hospitalization	In-hospital	46 (38.6%)	1.15	0.68 – 1.95
	Early biologic	42 (35.2%)		
2-year				
Repeat hospitalization	Late biologic	128 (57.3%)	1.65	1.14 – 2.41
	Early biologic	100 (44.8%)		
Repeat hospitalization	In-hospital	40 (38.8%)	0.81	0.47 – 1.42
	Early biologic	45 (43.6%)		

RESULTS

- A total of 1,203 biologic and small molecule naïve UC patients were hospitalized for an acute flare.
- Patients were treated with methylprednisolone (74%), with a median CRP of 45.1 and albumin of 3.37 on admission.
- Re-hospitalization for a flare was observed in 338 (28%) by 3 months and 548 (46%) by 12 months.
- Inpatient biologic (infliximab) or small molecule (cyclosporine) therapy was used in only 12% of patients, and early post-discharge initiation of a biologic was observed in only 27% of patients.
- Delayed (between 3-12 months post-discharge) initiation of a biologic or small molecule was associated with a significantly higher risk for re-hospitalization at 1- (OR 1.47, 95% CI 1.01-2.15) and 2 years (OR 1.65, 95% CI 1.14-2.41) post-discharge.
- No significant differences were observed in re-hospitalization risk among patients starting a biologic or small molecule in-hospital versus within 3 months of discharge (OR 1.15, 95% CI 0.68-1.95). A total of 133 (11%) patients were not started on a biologic or small molecule until > 12 months, and only after they had already been re-hospitalized for a second flare

CONCLUSIONS

- Biologic and small molecule naïve UC patients hospitalized for an acute flare are at a significantly increased risk for re-hospitalization up to 1-year later.
- Initiation of biologics or small molecules within 3 months of discharge is associated with a reduction in risk for re-hospitalization