

## Supplementary data

**Supplementary Table 1.** Covariates selected for Cox regression model.

Variable
Age
Female (n=42)
Disease Duration
CD Location (L3) (n=35) CD Location (L2) (n=26) (Reference L1) (n=10)
CD Behaviour (B3) (n=13) CD Behaviour (B2) (n=26) (Reference B1) (n=54)
Perianal Disease (n=24)
Prior Surgery (n=29)
Active Smoking (n=10)
>2 Prior Biologics (n=62) 2 Prior Biologics (n=31) (Reference <2 Prior Biologics) (n=4)
Previous JAK inhibitor exposure (n=11)
Concomitant Steroids (n=32)

CD, Crohn's disease. JAK, Janus Kinase.

**Supplementary Table 2.** Severity of luminal disease on cross-sectional imaging

	<b>Baseline</b> (n=33)	<b>12 weeks</b> (n=4)	<b>24 weeks</b> (n=6)
<b>Inactive</b>	7 (21%)	2 (25%)	0
<b>Mild</b>	5 (15%)	3 (38%)	3 (50%)
<b>Moderate</b>	20 (60%)	3 (38%)	2 (33%)
<b>Severe</b>	1 (3%)	0	1 (17%)

\*There were no week 52 cross sectional imaging

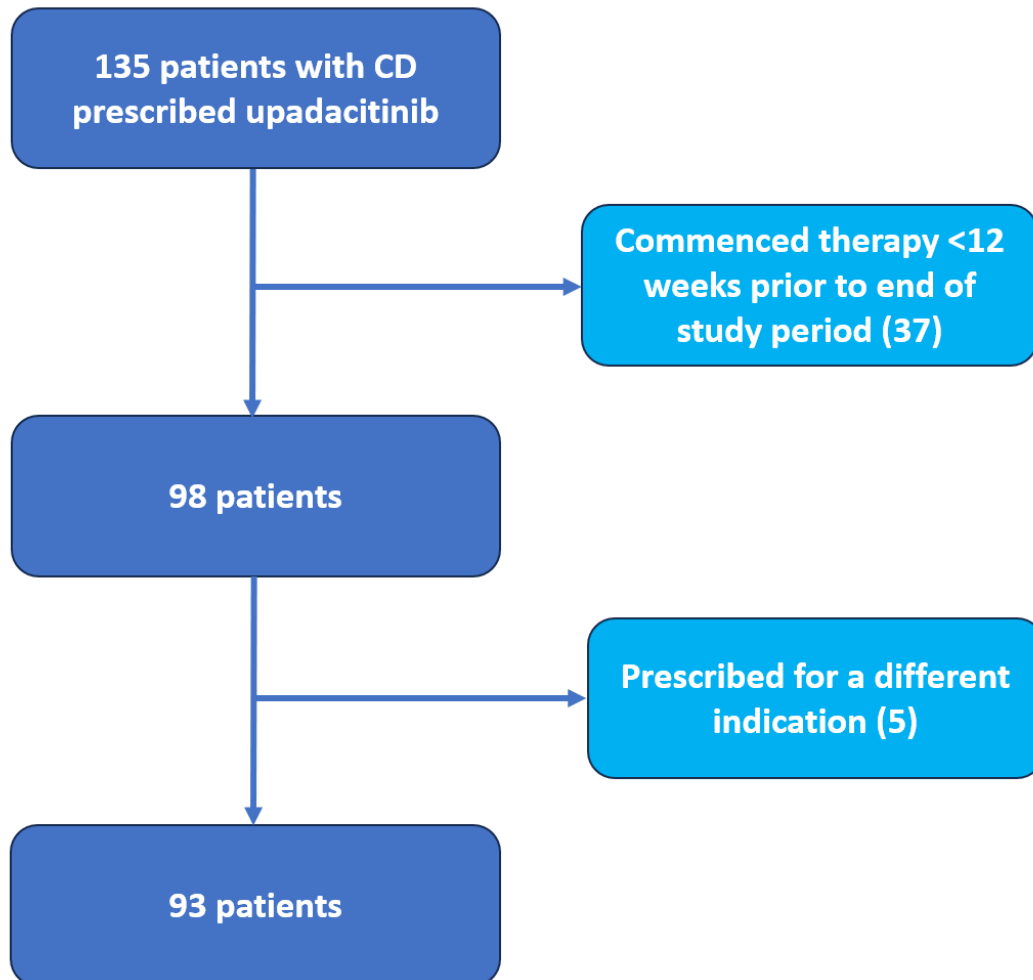
**Supplementary Table 3.** Endoscopic inflammation

	<b>Baseline</b> (n=30)	<b>12 weeks<sup>a</sup></b> (n=5)	<b>24 weeks</b> (n=4)	<b>52 weeks</b> (n=2)
<b>Remission</b>	0	1 (20%)	1 (25%)	0
<b>Mild</b>	8 (27%)	2 (40%)	1 (25%)	1 (50%)
<b>Moderate</b>	15 (50%)	1 (20%)	1 (25%)	1 (50%)
<b>Severe</b>	7 (23%)	1 (20%)	1 (25%)	0

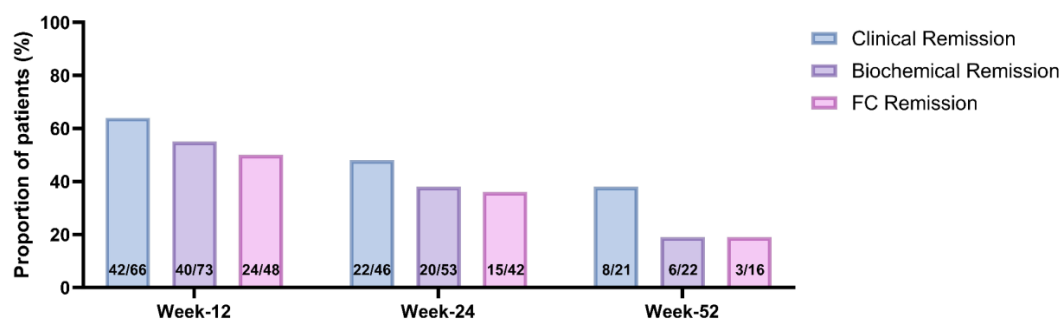
<sup>a</sup> Two of these procedures (one inactive and one mild case), did not get complete endoscopic disease assessment given the proceduralist was unable to intubate the terminal ileum. Both these patients had a history of ileal disease and therefore, assessment may not be accurate of the severity of inflammation.

**Supplementary Table 4.** Prior drug exposure

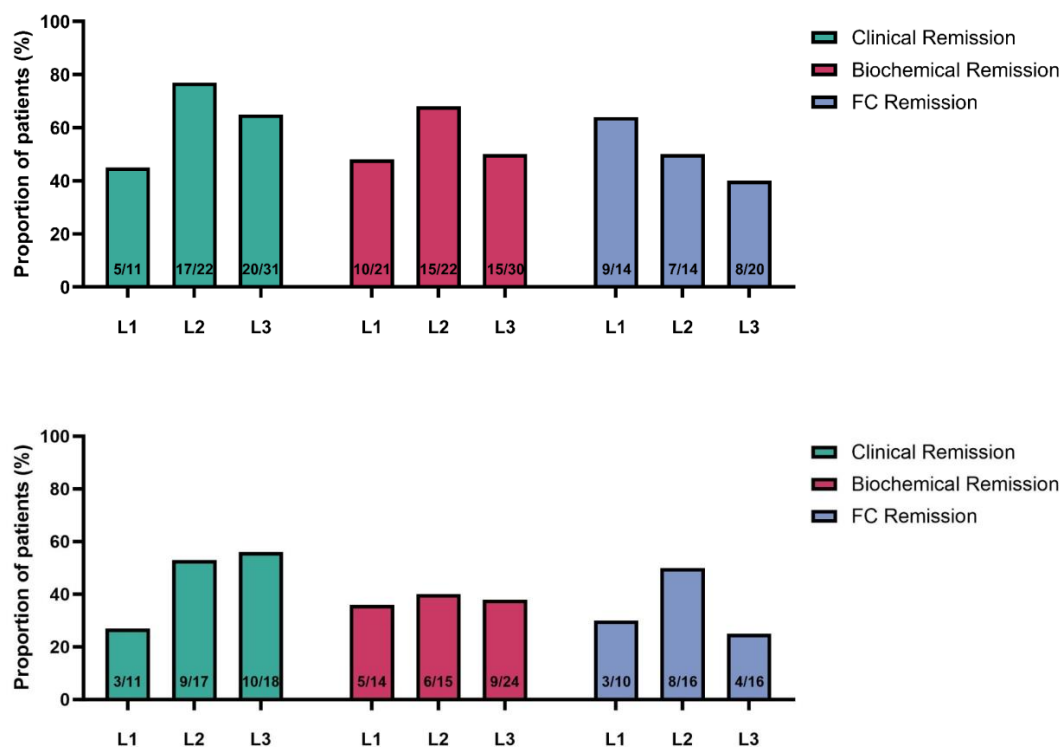
Prior treatment exposure	
Thiopurine	77 (83%)
Methotrexate	21 (23%)
Infliximab	63 (68%)
Adalimumab	80 (86%)
Golimumab	4 (4%)
Certolizumab	5 (5%)
Ustekinumab	71 (76%)
Risankizumab	9 (10%)
Vedolizumab	49 (53%)
Tofacitinib	9 (10%)
Filgotinib	2 (2%)
Tacrolimus	2 (2%)

**Supplementary Figure 1. Study inclusion**

**Supplementary Figure 2.** Effectiveness outcomes of upadacitinib (clinical, biochemical and faecal calprotectin [FCAL] remission defined as Harvey Bradshaw Index <5, CRP  $\leq$  5 mg/L and FCAL <250 $\mu$ g/g, respectively)



**Supplementary Figure 3.** Effectiveness outcomes of upadacitinib (clinical, biochemical and faecal calprotectin [FCAL] remission defined as Harvey Bradshaw Index <5, CRP  $\leq$  5 mg/L and FCAL <250 $\mu$ g/g, respectively) based on disease location at week 12 (top panel) and week 24 (bottom panel)



L1= ileal disease. L2= colonic disease. L3= ileocolonic disease.

If a patient had ileocolonic disease and previously undergone a colectomy, we considered that patient as having ileal disease in the phenotype sub analysis.