

**Table, Supplemental Digital Content 3.** Pattern of use of first biologic agent and numbers of subsequent biologic agents used in Crohn's disease and ulcerative colitis (Chart Review Cohort; N = 1029)

	Crohn's disease (N = 809)	Ulcerative colitis (N = 220)	Overall (N = 1029)	<i>P</i> value*
Time from diagnosis to initiation of first biologic agent (days), median (Q1, Q3)	325 (121, 740)	423 (208, 938)	356 (139, 779)	0.004
Discontinued first biologic agent, n (%)	165 (20)	69 (31)	234 (23)	0.003
Reasons for discontinuation of first biologic agent, n (%)				0.008
Intolerance <sup>†</sup>	42 (25)	11 (16)	53 (23)	
Primary lack of effectiveness	24 (15)	20 (29)	44 (19)	
Secondary loss of response	66 (40)	25 (37)	91 (39)	
Financial barriers	1 (1)	0 (0)	1 (<1)	
Pain with injections	1 (1)	1 (1)	2 (1)	
Choice	20 (12)	2 (3)	22 (9)	
Unknown	5 (3)	2 (3)	7 (3)	
Other	6 (4)	8 (12)	14 (6)	
Number of biologic agents used, n (%)				‡
≥2	132 (16)	43 (20)	175 (17)	
≥3	18 (2)	6 (3)	24 (2)	
≥4	5 (0.6)	1 (<1)	6 (1)	
Positioning of biologic agent use, n (%)				‡
Adalimumab <sup>§</sup>				
First <sup>  </sup>	104 (13)	19 (9)	123 (12)	
Second <sup>¶</sup>	104 (79)	31 (72)	135 (77)	
Third <sup>#</sup>	1 (6)	2 (33)	3 (13)	

Fourth**	1 (20)	-	1 (17)	
Certolizumab pegol <sup>§</sup>				‡
First <sup>  </sup>	2 (<1)	0 (0)	2 (<1)	
Second <sup>¶</sup>	0 (0)	0 (0)	0 (0)	
Third <sup>#</sup>	89 (44)	0 (0)	8 (33)	
Fourth**	0 (0)	-	0 (0)	
Golimumab <sup>§</sup>				‡
First <sup>  </sup>	0 (0)	1 (1)	1 (<1)	
Second <sup>¶</sup>	0 (0)	1 (2)	1 (1)	
Third <sup>#</sup>	0 (0)	1 (17)	1 (4)	
Fourth**	0 (0)	-	0 (0)	
Infliximab <sup>§</sup>				‡
First <sup>  </sup>	703 (87)	200 (91)	903 (88)	
Second <sup>¶</sup>	23 (17)	7 (16)	30 (17)	
Third <sup>#</sup>	2 (11)	1 (17)	3 (13)	
Fourth**	0 (0)	-	0 (0)	
Ustekinumab				‡
First <sup>  </sup>	0 (0)	0 (0)	0 (0)	
Second <sup>¶</sup>	1 (1)	0 (0)	1 (1)	
Third <sup>#</sup>	0 (0)	0 (0)	0 (0)	
Fourth**	0 (0)	0 (0)	0 (0)	
Vedolizumab				‡
First <sup>  </sup>	0 (0)	0 (0)	0 (0)	
Second <sup>¶</sup>	4 (3)	4 (9)	8 (5)	
Third <sup>#</sup>	7 (39)	2 (33)	9 (38)	
Fourth**	4 (80)	1 (100)	5 (83)	

\*The *P* values were from the log-rank test for the time-to-event variable and exact Chi-square test for categorical variables.

†Intolerance was defined as an allergic reaction or other drug side effect.

‡No tests were done either because of the nested samples (eg, patients who used  $\geq 3$  biologics were also included in those who used  $\geq 2$  biologics) or because each row represented different samples (reasons explained in footnotes  $\parallel$  through \*\* below).

§Anti-TNF agent.

$\parallel$ The denominator is  $N = 809$  for CD patients and  $N = 220$  for UC patients who all used  $\geq 1$  biologics.

$\nabla$ The denominator is  $N = 132$  for CD patients and  $N = 43$  for UC patients who all used  $\geq 2$  biologics.

#The denominator is  $N = 18$  for CD patients and  $N = 6$  for UC patients who all used  $\geq 3$  biologics.

\*\*The denominator is  $N = 5$  for CD patients and  $N = 1$  for UC patients who all used  $\geq 4$  biologics.

CD = Crohn's disease; UC = ulcerative colitis.