

# Maintenance of IBD remission after switching from IV to SC administration of infliximab



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**Introduction:** Infliximab (IFX) was the first TNF alpha inhibitor approved for treatment of inflammatory bowel disease (IBD). Despite new advanced therapies IFX is still mainstay of treatment in perianal Crohn's disease (CD), acute severe ulcerative colitis (UC) and extraintestinal manifestations. Since 2013 biosimilars of IFX and since 2023 sc formulation of IFX have been available which contributed to cost reduction and potential relief of infusion centers.

**Methods:** We performed a prospective, observational, single center, cohort study in IBD patients treated with IFX. Serum IFX levels were measured with fluorescence immunoassay; ez-Trecker, Theradiag, France.

**Results:** We included 40 patients, demographic data are presented in table 1, disease characteristics in table 2 and prior and baseline treatment in table 3. Persistence of clinical remission at week 24, target serum IFX levels are presented in figures 1-3 and patients' satisfaction and QoL in figure 4.

**Objective:** To switch patients from maintenance IV to SC infliximab at fixed time interval of 4 weeks between last IV and first SC injection.

Approach to switching in patients on maintenance iv IFX:

IBD patients in remission, including stable perianal disease

Time interval between i.v. and s.c. = 4 weeks

- Independent of IFX type (originator or biosimilar)
- Independent of iv dosing regime (switch to 120 mg or 240 mg sc)

Observed outcomes:

- Clinical disease activity (HBI, p-Mayo)
- Serum IFX levels
- Patient's satisfaction (TSQM-9)
- QoL (Short-IBDQ)

Table 1: Demographic data

	CD [n=28]	UC [n=12]
Gender, female, n [%]	9 [32.14%]	3 [25%]
Age, mean [SD]	42.5 [11.9]	42.5 [18.3]
Age at diagnosis, mean [SD]	27.04 [10.9]	27.58 [12.4]
Disease duration, years, median [Q1-Q3]	13.5 [0-28]	14.5 [2-28]

Table 2: Disease characteristics

	CD [n=28]	UC [n=12]
Disease localization in CD, n [%]:		
- Ileal [L1]	4 [14.29]	
- Colonic [L2]	5 [17.86]	
- Ileo-colonic [L3]	19 [67.86]	
- Upper GI [L4]	3 [10.71]	
Behaviour classification in CD, n [%]:		
- nonstricturing, nonpenetrating [B1]	4 [14.29]	
- stricturing [B2]	10 [35.71]	
- penetrating [B3]	14 [50]	
Disease extent in UC, n [%]:		
- Proctitis [E1]		0 [0]
- Left-sided [E2]		2 [16.67]
- Pancolitis [E3]		10 [83.33]
Perianal disease, n [%]:	14 [50]	1 [8.33]

Table 3: Prior and baseline treatment

	CD [n=28]	UC [n=12]
Surgery, n [%]	16 [57.14]	0 [0]
Concomitant immunomodulator, n [%]	25 [89.29]	7 [58.33]
Line of therapy, n [%]		
- first	20 [71.43]	11 [91.67]
- second	6 [21.43]	1 [8.33]
- ≥ 3	2 [7.14]	0 [0]
Prior TNF-α therapy, n [%]	7 [25]	0 [0]
Optimized iv IFX therapy, n [%]	10 [35.71]	6 [50]
Time till starting IFX, months, median [IQR]	83.5 [2-316]	53.5 [2-220]
IFX therapy duration, months, median [IQR]	60 [4-228]	71 [14-179]

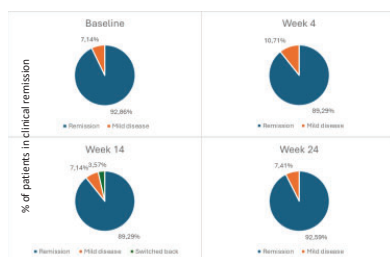


Figure 1: Persistence of clinical remission (HBI) in CD

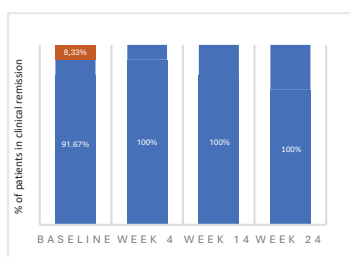


Figure 2: Persistence of clinical remission (pMayo) in UC

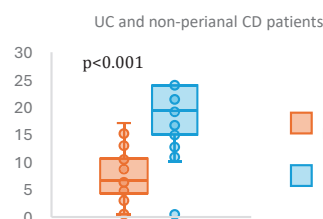
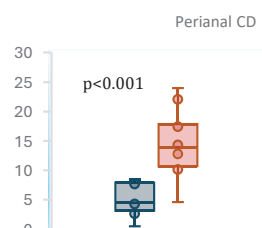


Figure 3: Target serum IFX levels in mg/L

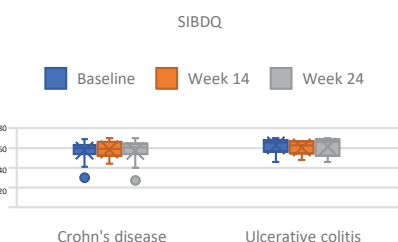
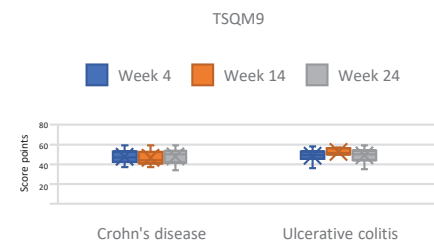


Figure 4: Patients' satisfaction and QoL

References: Buisson A, Nachury M, Raymond M, et al. Effectiveness of Switching from Intravenous to Subcutaneous Infliximab in Patients With Inflammatory Bowel Diseases: the REMSWITCH Study. Clin Gastroenterol Hepatol. 2023 Aug;21(9):2338-2346.e3. Smith PJ, Critchley L, Storey D, et al. Efficacy and Safety of Elective Switching from Intravenous to Subcutaneous Infliximab (C1-P13): A Multicentre Cohort Study. J Crohn's Colitis. 2022 Sep 8;16(9):1436-1446. Verma AM, Patel A, Subramanian S, et al. From Intravenous to Subcutaneous Infliximab in Patients with Inflammatory Bowel Disease: a pandemic-driven initiative. Lancet Gastroenterol Hepatol. 2021 Feb;6(2):88-89. Altun R, An Y, Kim DH, et al. Re-Routing Infliximab Therapy: Subcutaneous Infliximab Opens a Path Towards Greater Convenience and Clinical Benefit. Clin Drug Investig. 2022 Jun;42(6):477-489.

**Conclusions:** Time interval 4 weeks between iv and sc IFX administration was appropriate. Target IFX conc. were reached in high number of patients at week 24. In perianal CD treatment persistence after switch to sc IFX was high at week 24. QoL and patients' satisfaction on sc was not inferior to iv administration at week 24.