

ECONOMIC IMPACT OF INTENSIFICATION REGIMENS IN INFLAMMATORY BOWEL DISEASE



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Background and importance

Biological treatments have improved the therapeutic options for **inflammatory bowel disease (IBD)** and have shown high clinical efficacy. Nevertheless, some patients do not respond to initial treatment or present loss of response over time. To prevent the loss of efficacy, treatment intensification has been employed, usually applied empirically based on the clinical condition of patients and biochemical parameters. The introduction of tumor necrosis factor antagonist (anti-TNF) monitoring in clinical practice allows a more accurate selection of strategies.

Aim and objectives

- To analyse the **number of patients** in treatment with a biological agent for IBD and required **intensification regimen**, including increasing dosage or shortening the intervals of the administration.
- To evaluate the **economic impact** of this intensification strategy.

Material and methods

Retrospective and observational study.

Identification of patients with IBD and under an intensified regimen of a biological agent.



Estimation of the cost per patient.
Extrapolation of the price of each medication for one year of treatment.



Calculate:
1. Difference in costs per patient and year for each treatment.
2. Total economic impact.

Results

549 patients with IBD were under a biological treatment → **239** required an **intensification regimen**.

Drug	Intensification regimen	N patients (% intensifications per drug)	Patient-annual cost (€)	Difference respect standard regimen (€)	Incremental annual total cost (€)
Adalimumab	40 mg q1week	34 (18)	4860	2430	82620
Golimumab	100 mg q4week	13 (52)	11082	725	9425
Ustekinumab	q8week	52 (68)	16063	5362	278824
	q6week	9 (12)	21425	10725	96525
	q5week	1 (1)	25700	15000	15000
	q4week	13 (17)	32125	21425	278525
Vedolizumab	q6week	14 (19)	13791	3452	48328
	q4week	16 (22)	20678	10339	165424
Infliximab	10 mg/kg q8week	77 (43)	6341	3170	244090
	5 mg/kg q6week	9 (5)	4229	1058	9522
	5 mg/kg q4week	1 (1)	6341	3170	3170
TOTAL		239			1231453

Conclusion and relevance

· Intensification regimens including increasing dosage or shortening the intervals of the administration were frequent in our hospital, both anti-TNF and for other biological agents used for the treatment of IBD. These strategies involve an **important economic impact**, as well as **high risk of infection** for the patients.

· Intensification should be guided by **pharmacokinetic monitoring**.

· More studies are needed to validate therapeutic algorithms that allow to optimise resources for all biological agents used.