

# Píldoras IMID: Lamina propia

# Vida Real

# en

# Enfermedad de Crohn

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**H. U. Virgen Macarena (Sevilla)**

# Conflictos de intereses

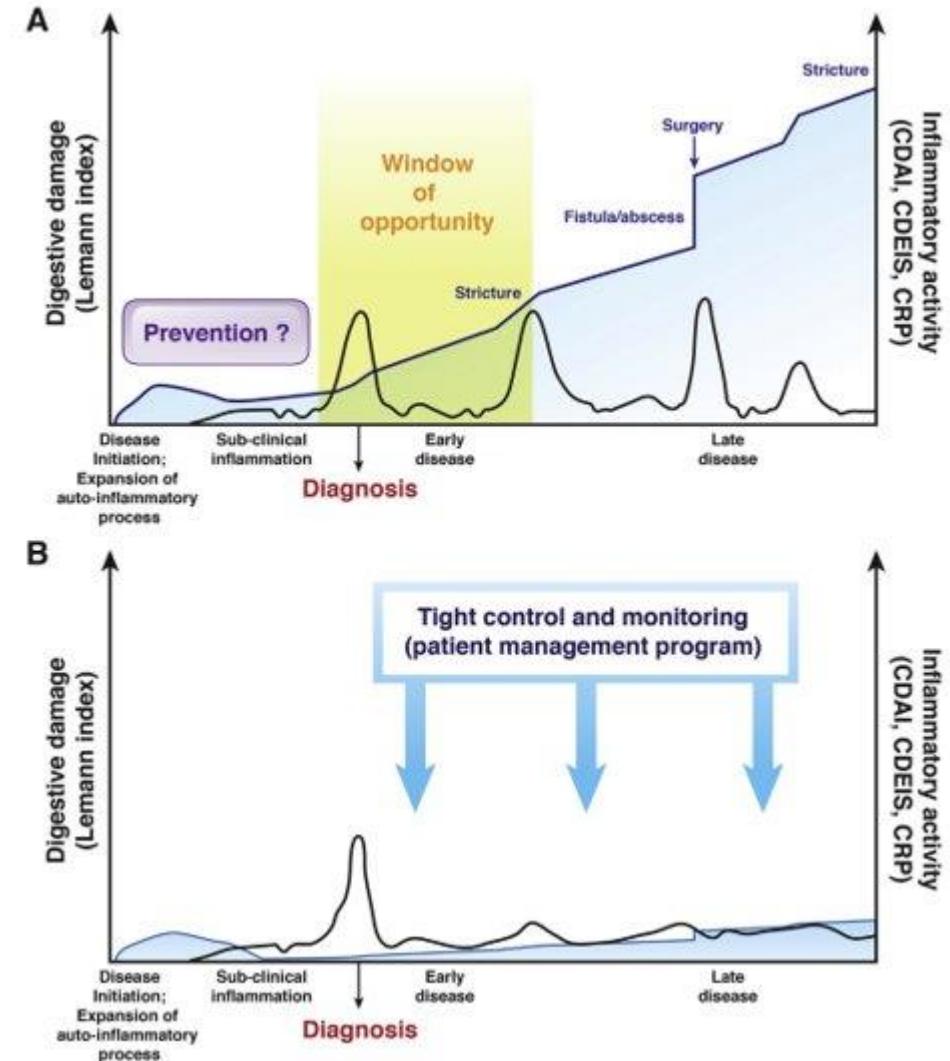
**Vicente Merino:** He recibido honorarios como consultor y ponente para Janssen, Abbvie, AstraZeneca, GSK y Pfizer. No poseo acciones de ninguna compañía farmacéutica.

# Impacto de la Enfermedad de Crohn (EC)

La enfermedad de Crohn es una enfermedad inflamatoria, crónica y progresiva con un impacto sustancial en los pacientes y en el Sistema de salud:

- Mayor riesgo de cáncer<sup>1</sup>
- Altas tasas de cirugía<sup>2</sup>
- Calidad de vida reducida<sup>3</sup>
- Impacto económico<sup>3,4</sup>

La inflamación asociada a la EC resulta en daño intestinal progresivo<sup>5</sup>



CD, Crohn's disease; IBD, inflammatory bowel disease; QoL, quality of life; UC, ulcerative colitis.

1. Axelrad J, et al. *World J Gastroenterol* 2016;22:4794–4801; 2. Khoudari G, et al. *Clin Gastroenterol Hepatol* 2022;20:974–983; 3. Mehta F. *Am J Manag Care* 2016;22:51–60; 4. Zhao M, et al. *J Crohns Colitis* 2021;15:1573–1587; 5. Burisch J, et al. *J Crohns Colitis* 2017;11:1200–1204;

# Impacto de la Enfermedad de Crohn (EC)

Despite treatment, many patients still suffer **debilitating symptoms**, including **chronic diarrhoea, abdominal pain, rectal bleeding** and **fatigue**

**Patients with active, moderate-to-severe CD exhibit poor health-related QoL compared with the general population<sup>1-6</sup>**

## Symptom burden in CD\*



\*Not an exhaustive list of reported symptoms.

CD, Crohn's disease; IBD, inflammatory bowel disease; QoL, quality of life; UC, ulcerative colitis.

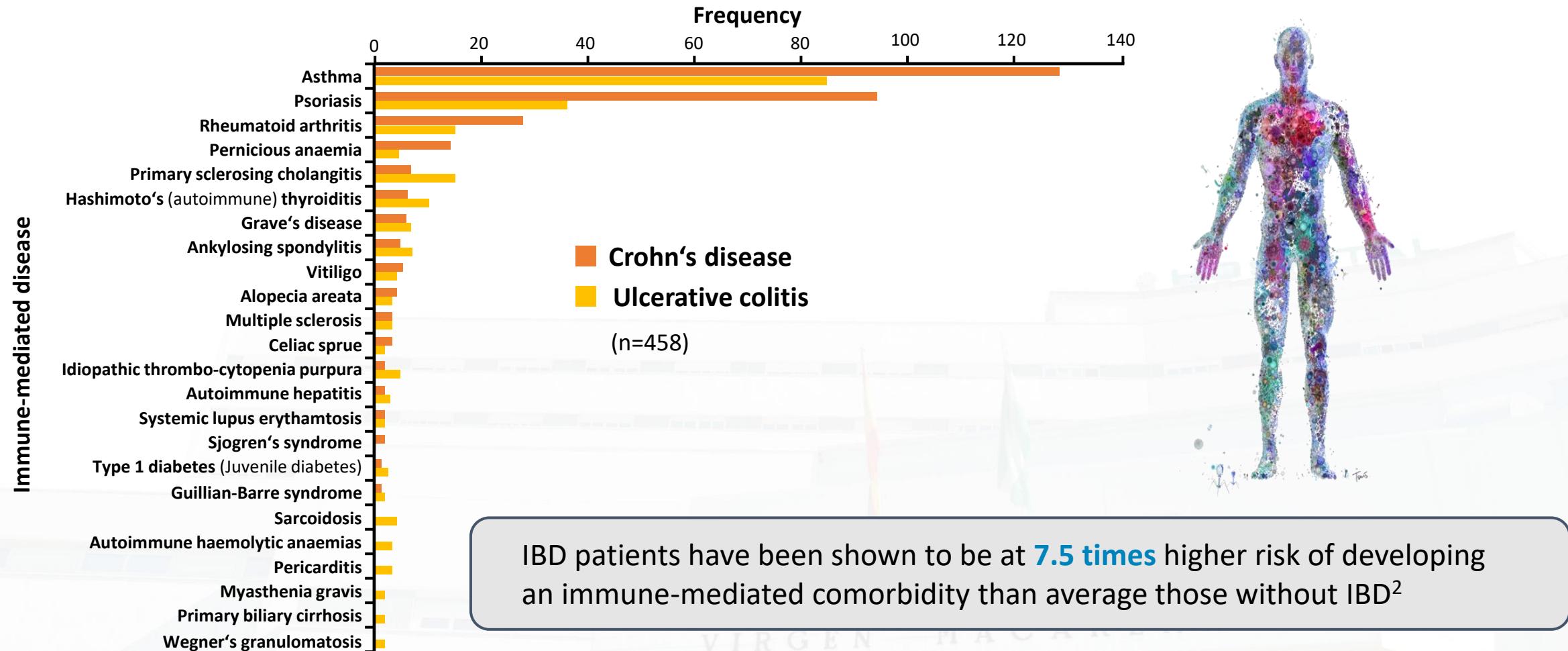
1. Lönnfors S, et al. *J Crohns Colitis* 2014;8:1281-1286; 2. Calvet X, et al. *Patient Prefer Adherence* 2018;12:1815-1823; 3. Park KT, et al. *Inflamm Bowel Dis* 2020;26:1-10; 4. Lie Hoivik M, et al. *J Crohns Colitis* 2012;6:441-453;

5. Bernklev T, et al. *Inflamm Bowel Dis* 2005;11:909-918; 6. Nordin K, et al. *Scand J Gastroenterol* 2002;37:450-457; 7. Ghosh S, et al. *J Crohns Colitis* 2007;1:10-20; 8. Grimstad T, et al. *J Crohns Colitis* 2015;9:725-730;

9. Becker HM, et al. *Can J Gastroenterol Hepatol* 2015;29:77-84

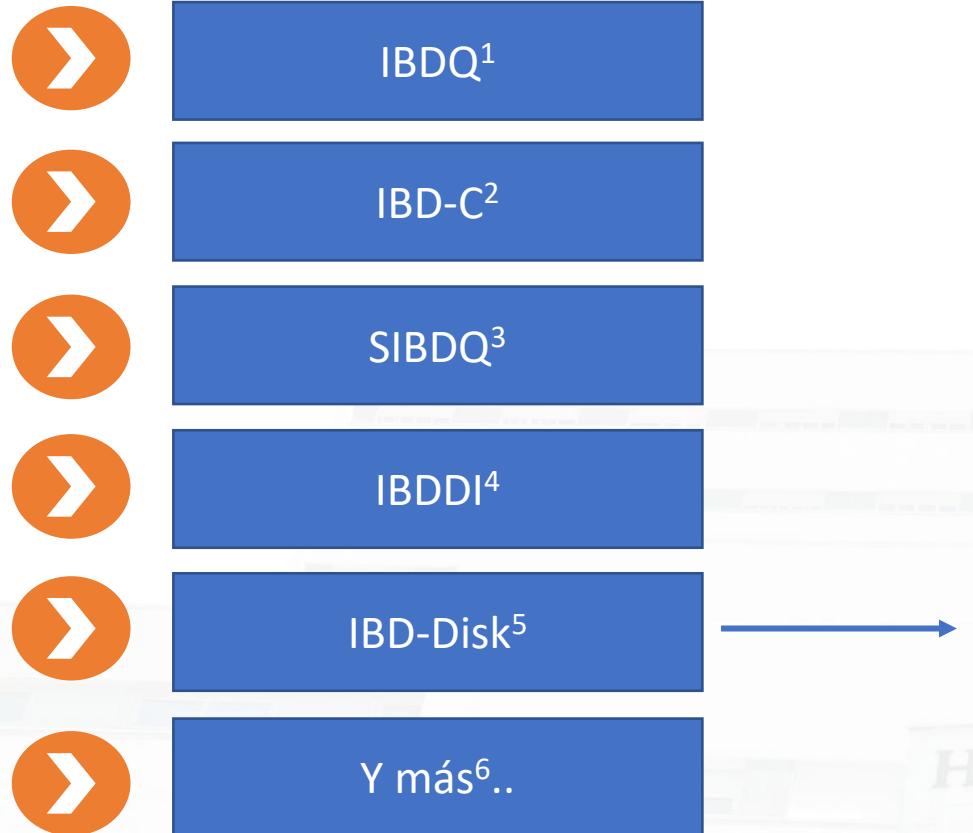
# IBD burden frequently goes beyond the gut as extraintestinal manifestations

- Prevalence of various immune-mediated diseases in patients with IBD

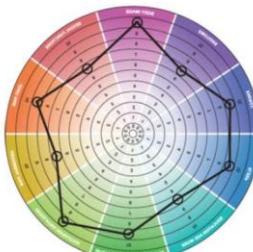


1. Conway G, et al. *Aliment Pharmacol Ther* 2017;45:814–23; 2. Panaccione R, et al. *J Crohns Colitis* 2017;11(Suppl 1):S437–S438.

# ¿Medimos la actividad de la enfermedad desde la perspectiva del paciente?



## Índice de discapacidad de la enfermedad inflamatoria intestinal (EII)

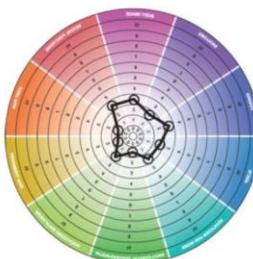


### Evaluación inicial

- Alta puntuación
- Alta discapacidad



1. Dolor abdominal
2. Regulación de defecación
3. Relaciones Interpersonales
4. Educación y trabajo
5. Sueño
6. Vitalidad
7. Emociones
8. Imagen del cuerpo
9. Función sexual
10. Dolor articular

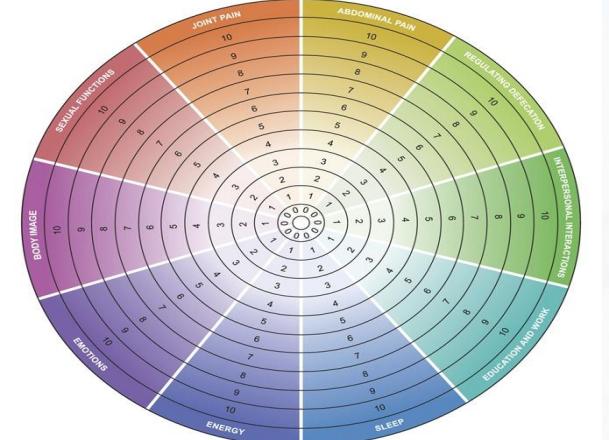


### Objetivo terapéutico

- Baja puntuación
- Baja discapacidad

For each of the ten statements below, score your level of agreement on a scale of 0 to 10.  
Circle your scores on the coloured disc.

Absolutely disagree	Neither agree or disagree	Absolutely agree
0	1	2
3	4	5
6	7	8
9	10	
In the last week, because of my Crohn's disease or ulcerative colitis...		
Abdominal pain	...I have had aches or pains in my stomach or abdomen	
Regulating defecation	...I have had difficulty coordinating and managing defecation, including choosing and getting to an appropriate place for defecation and cleaning myself afterwards	
Interpersonal interactions	...I have had difficulty with personal relationships and/or difficulty participating in the community	
Education and work	...I have had difficulty with school or studying activities, and/or difficulty with work or household activities	
Sleep	...I have had difficulty sleeping, such as falling asleep, waking up frequently during the night or waking up too early in the morning	
Energy	...I have not felt rested and refreshed during the day, and have felt tired and without energy	
Emotions	...I have felt sad, low or depressed, and/or worried or anxious	
Body image	...I have not liked the way my body or body parts look	
Sexual functions	...I have had difficulty with the mental and/or physical aspects of sex	
Joint pain	...I have had pains in the joints of my body	



1. Pallis AG, et al. Inflamm Bowel Dis 2004; 2. Bodger K, et al. Gut 2014; 3. Alcala MJ, et al. Inflamm Bowel Dis 2004; 4. Lo B, et al. Eur JG&H 2018; 5. Ghosh S, et al. Inflamm Bowel Dis. 2017; 6. Andel, et al. JCC 2020

# Evolución de los objetivos terapéuticos en EII

Step-up

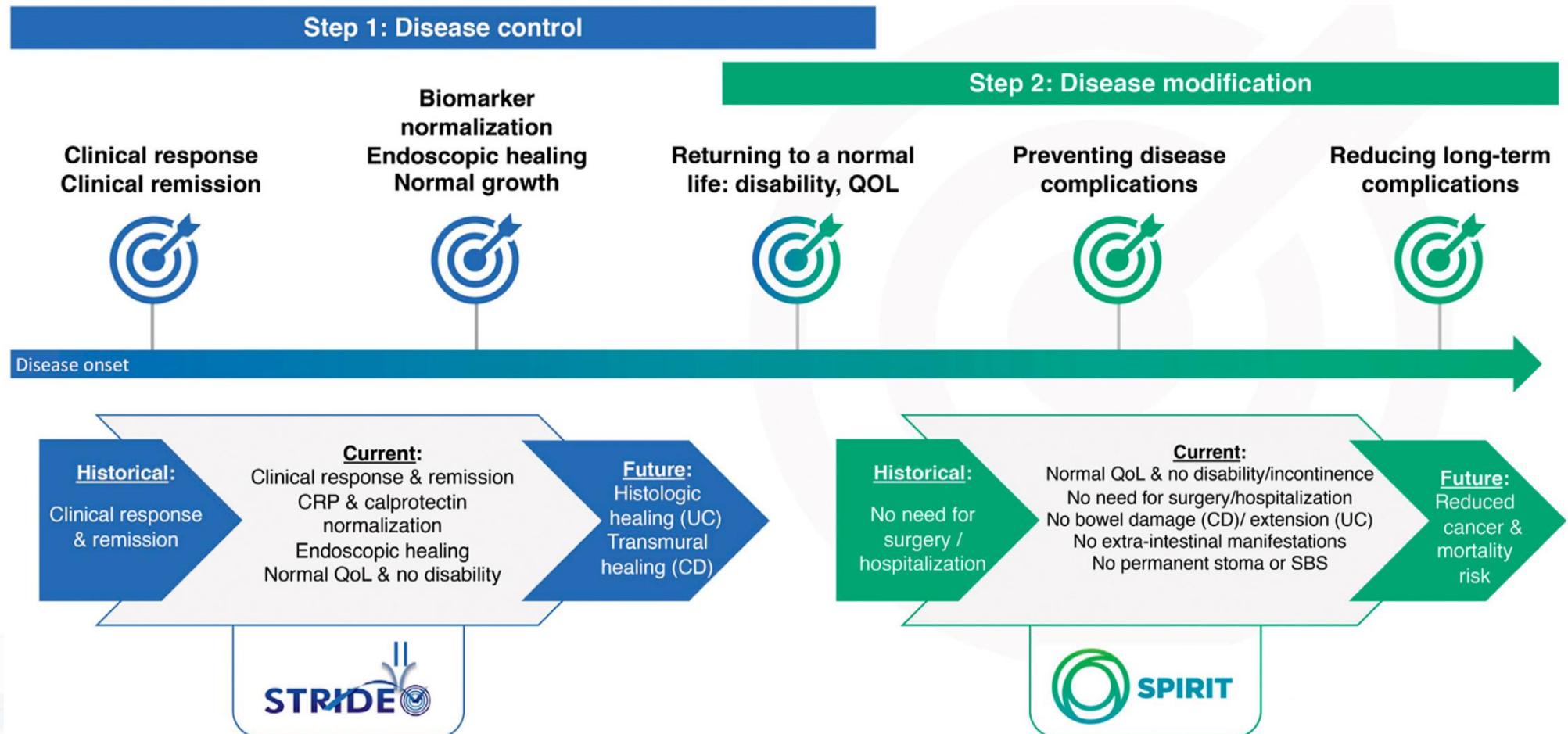
Top-down

T2T

Control  
temprano de  
la  
enfermedad

Modificación  
de la  
enfermedad

# Objetivos establecidos en los consensos



**Figure 1.** Summary of evolving short-term and long-term goals in inflammatory bowel diseases. CD, Crohn's disease; CRP, C-reactive protein; QoL, quality of life; SBS, short bowel syndrome; UC, ulcerative colitis.

# Herramientas: Biomarcadores para monitorización estrecha

- Endoscopia y resonancia magnética son costosas, y llevan tiempo
- Un buen marcador surrogado de actividad endoscópica reduciría el número de endoscopias
  - Papel de FeCal (y PCR)

## PCR

- Correlaciona modestamente con actividad endoscópica
- Se asocia con respuesta terapéutica
- Predice recaidas

## FeCal

- Puede ayudar a predecir respuesta terapéutica
- Puede predecir recaidas
- Correlaciona con curación mucosa

# Herramientas: Therapeutic Drug Monitoring

GUÍA



DE PRÁCTICA  
FARMACÉUTICA  
EN ENFERMEDAD  
INFLAMATORIA INTESTINAL



## CAPÍTULO 06

MONITORIZACIÓN FARMACOCINÉTICA DE  
FÁRMACOS BIOLÓGICOS EN ENFERMEDAD  
INFLAMATORIA INTESTINAL

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GUÍA DE PRÁCTICA FARMACÉUTICA  
EN ENFERMEDAD INFLAMATORIA INTESTINAL

Fármaco Biológico	Etapa del tratamiento	Puntos de corte sugeridos de las concentraciones séricas del fármaco para alcanzar la respuesta o remisión ( $\mu\text{g/mL}$ )	Puntos de corte sugeridos de las concentraciones séricas del fármaco para la curación de la mucosa ( $\mu\text{g/mL}$ )
Infliximab	Inducción (semana 2)	$\geq 20$	$\geq 25$
	Inducción (semana 6)	$\geq 16-18$	*
	Fin de inducción (semana 14)	$\geq 5$	$\geq 7$
	Mantenimiento	$\geq 3$	$\geq 7$
Adalimumab	Inducción (semana 4)	$\geq 7$	$\geq 12$
	Mantenimiento	$\geq 5$	$\geq 8$
Golimumab	Fin de inducción (semana 14)	$\geq 2,5$	*
	Mantenimiento	$\geq 1$	*
Vedolizumab	Inducción (semana 2)	$\geq 28$	*
	Inducción (semana 6)	$\geq 20$	*
	Fin de inducción (semana 14)	$\geq 15$	$\geq 17$
	Mantenimiento	$\geq 12$	$\geq 14$
Ustekinumab	Fin de inducción (semana 8)	$\geq 3,5$	$\geq 7,0$
	Mantenimiento	$\geq 1$	$\geq 4,5$

# RWE: demuestran la efectividad del tratamiento en la vida real



**Ensayos Clínicos  
Aleatorizados  
(ECA)**



**Escalada y desescalada de dosis**



**Adherencia al  
tratamiento**



**Discontinuación del  
tratamiento**



**Cambios de tratamientos**

Todos estos factores pueden ser usados como indicadores de efectividad y seguridad en vida real:  
enfermedad de Crohn y colitis ulcerosa

# Ventajas y limitaciones de RWE vs ECA

## VENTAJAS

Reducción del consumo de tiempo y costes en comparación con los ECA

Se pueden detectar eventos adversos raros en RWE

Tamaño de muestra más grande

Los criterios mínimos de exclusión permiten la generalización

Obtención de información en pacientes complejos con múltiples comorbilidades

Los registros se pueden utilizar para identificar rápidamente eventos inesperados y garantizar la seguridad del paciente

## LIMITACIONES

Para un análisis correcto, se debe recopilar una gran cantidad de datos

Los datos suelen ser desordenados e incompletos

La fuente de financiación puede sesgar los resultados del ensayo

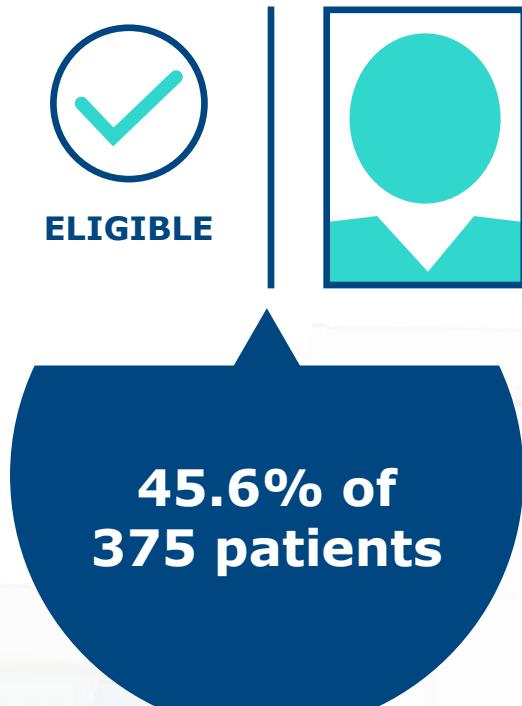
Son necesarios sofisticados métodos estadísticos para obtener información y expertos que lo manejen e interpreten

Es necesario establecer un protocolo de investigación estandarizado antes de la investigación (alta probabilidad de sesgos)

- Signal A, et al. Clin Transl Gastroenterol. 2014 Jan;5:e45.  
de Lusignan S, et al. J Innov Health Inform. 2015;22:368-73.  
Macaluso FS et al. Ther Adv Gastroenterol. 2021;14:1-11.  
Kim HS et al. J Korean Med Sci. 2018;33(34):e213..

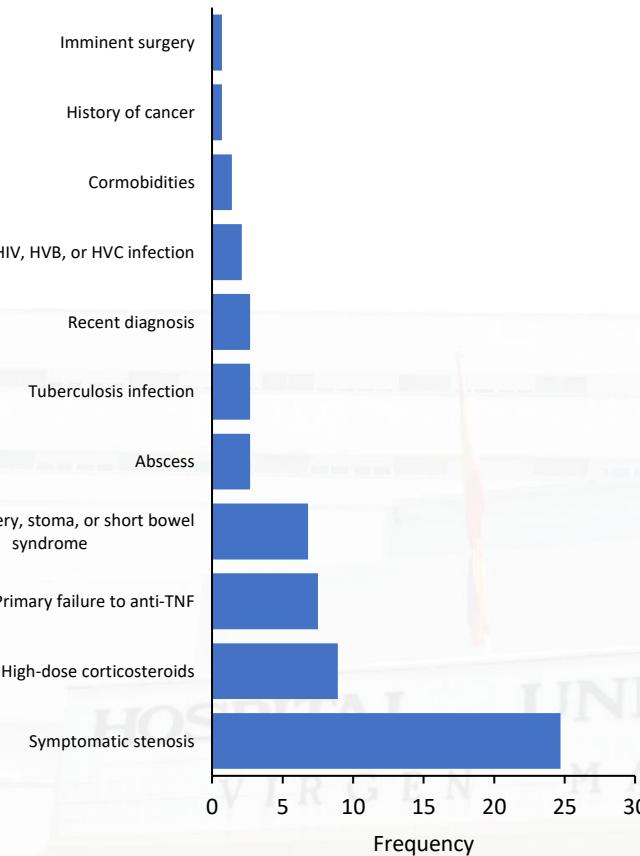
# RWE: patients are not the same as patients in clinical trials

**RWE patients are not the same as those participating in clinical trials**

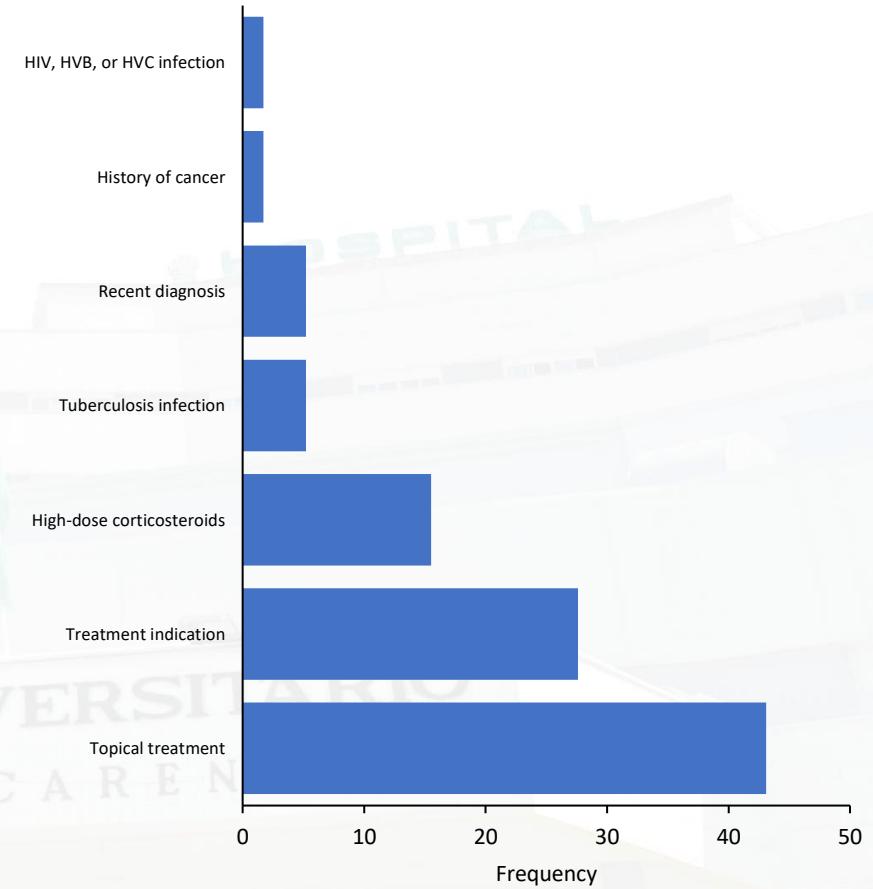


In the Spanish RWE study **EFIFECT**, only 45.6% of the 375 included patients would have been eligible for clinical trials

**Causes of ineligibility for a randomized clinical trial in Crohn's disease**



**Causes of ineligibility for a randomized clinical trial in ulcerative colitis**



# Durable remission

Real-world data on the effectiveness of UST align with clinical trial observations (1 of 6)

## Real-world data in patients with CD (1/4)

Publication	Study design	Patient demographic	Patients followed	Main findings
ENEIDA: Iborra M, et al. 2019 <sup>1</sup> 	<ul style="list-style-type: none"><li>Multicentre study of patients with refractory CD from the ENEIDA registry starting UST; patients were followed up to assess the real-world, short-term effectiveness of UST in refractory CD</li></ul>	<p>Patients with CD:</p> <ul style="list-style-type: none"><li>64% ≥2 previous anti-TNFs, 32% 1 previous anti-TNF</li><li>56% previous surgery</li><li>36% on CSs</li><li>11.7 years disease duration</li></ul>	N=305	<ul style="list-style-type: none"><li>At baseline, 217 patients had an HBI &gt;4</li><li>Clinical remission was achieved in:<ul style="list-style-type: none"><li>47% of patients at <b>Week 8</b></li><li>58% of patients at <b>Week 14</b></li></ul></li><li>AEs were reported in 12% of patients</li></ul>
ENEIDA: Iborra M, et al. 2020 <sup>2</sup> 	<ul style="list-style-type: none"><li>Multicentre study of patients with refractory CD from the ENEIDA registry starting UST; patients were followed up for 1 year to assess the real-world, long-term effectiveness of UST in refractory CD</li></ul>	<p>Patients with CD:</p> <ul style="list-style-type: none"><li>61% ≥2 previous anti-TNF, 35% 1 previous anti-TNF therapies</li><li>55% previous surgery</li><li>33% on CS</li><li>11.06 years disease duration</li></ul>	N=407	<ul style="list-style-type: none"><li>At baseline, 295 patients had an HBI &gt;4</li><li>Clinical remission was achieved in:<ul style="list-style-type: none"><li>57% of patients at <b>Week 26</b></li><li>64% of patients at <b>Week 52</b></li></ul></li><li>AEs were recorded in 14.7% of patients</li><li>These results were consistent with the previously published results from the ENEIDA registry of 305 patients with CD who were treated with UST<sup>1</sup></li><li><b>After 52 weeks</b>, treatment was discontinued in 27.5% of patients</li></ul>

AE, adverse event; CD, Crohn's disease; CS, corticosteroid; HBI, Harvey-Bradshaw Index; TNF, tumour necrosis factor; UST, ustekinumab.

1. Iborra M, et al. *Aliment Pharmacol Ther* 2019;50:278–288; 2. Iborra M, et al. *Aliment Pharmacol Ther* 2020;52:1017–1030.

# Durable remission

Real-world data on the effectiveness of UST align with clinical trial observations (2 of 6)



## Real-world data in patients with CD (2/4)

Publication	Study design	Patient demographic	Patients followed	Main findings
SUSTAIN: Chaparro M, et al. 2022 <sup>1</sup>  	<ul style="list-style-type: none"><li>Retrospective, multicentre study in patients with active, refractory CD</li><li>Primary outcome was UST retention rate</li></ul>	<p>Active CD with <math>\geq 1</math> intravenous dose of UST for <math>\geq 6</math> months</p> <ul style="list-style-type: none"><li>69.1% <math>&gt;2</math> previous biologics</li><li>96.5% 1 previous anti-TNF</li><li>60.7% previous surgery</li><li>39.1% EIMs</li><li>14.1 years disease duration</li></ul>	N=463	<p><b>At Week 16:</b></p> <ul style="list-style-type: none"><li>56% of patients were in remission</li><li>70% of patients had a response</li><li>26.1% of patients required dose escalation or intensification (of these, 24.8% did not subsequently reduce dose)</li></ul> <p>After a median follow-up of <b>15 months</b>:</p> <ul style="list-style-type: none"><li>77% of patients continued treatment</li><li>The incidence rate of UST discontinuation was 18% per patient-year of follow-up</li><li>50 AEs were reported in 8.4% of patients; 4 of them were severe (2 infections, 1 malignancy and 1 fever)</li></ul>
Plevris N, et al. 2021 <sup>2</sup>  	<ul style="list-style-type: none"><li>Retrospective study of patients with CD who received UST across eight Scottish National Health Service health boards</li></ul>	<p>Diagnosis of active CD</p> <ul style="list-style-type: none"><li>75% <math>&gt;2</math> previous biologics</li><li>98.6% 1 previous anti-TNF</li><li>55.1% previous surgery</li><li>29.6% EIMs</li><li>9.9 years disease duration</li></ul>	N=216	<p><b>At 12 months</b>, the cumulative rates were:</p> <ul style="list-style-type: none"><li>32.0% of patients were in clinical remission</li><li>32.7% of patients had mucosal healing</li><li>19.3% of patients were in deep remission (clinical remission plus mucosal healing)</li></ul> <p>The rate of SAEs was 13.6 per 100 patient-years of follow-up</p>

# Durable remission

**Real-world data** on the effectiveness of UST **align with clinical trial observations** (3 of 6)

## Real-world data in patients with CD (3/4)

Publication	Study design	Patient demographic	Patients followed	Main findings
PROSE: Forss A, et al. 2021 <sup>1</sup>  	<ul style="list-style-type: none"> <li>Swedish Inflammatory Bowel Disease Registry: Prospective multicentre study of adult patients with CD who initiated UST according to recommended doses at 20 hospitals</li> <li>Primary outcomes were clinical response and remission at Week 16</li> </ul>	<p>Confirmed ICD diagnosis of CD with active disease</p> <ul style="list-style-type: none"> <li>72% previous biologics,</li> <li>94% &gt;1 previous biologic</li> <li>32% previous surgery</li> <li>44% stricturing disease</li> </ul>	N=114	<p>94% had failed ≥1 and 51% ≥2 biologic agents (anti-TNF agents or vedolizumab)</p> <p><b>At Week 16:</b></p> <ul style="list-style-type: none"> <li>92% of patients continued with UST</li> <li>40% of patients achieved a response or remission</li> <li>26% of patients achieved clinical remission</li> <li>24% of patients showed a clinical response</li> <li>Median CRP concentration (n=65) decreased from 6 mg/l to 4 mg/l (<math>p=0.006</math>)</li> </ul> <p>No incident malignancies or infections requiring antibiotic treatment were reported</p>
ICC: Straatmijer T, et al. 2021 <sup>2</sup>  	<ul style="list-style-type: none"> <li>Initiative on Crohn's and Colitis registry (Netherlands): Prospective, nationwide multicentre study of patients with CD who initiated UST</li> <li>The primary outcome was CS-free clinical remission at Week 104</li> </ul>	<p>Established CD diagnosis starting UST in regular care</p> <ul style="list-style-type: none"> <li>99.2% failed &gt;1 previous biologic,</li> <li>42.9% failed vedolizumab</li> </ul>	N=252	<p><b>After 24 weeks:</b></p> <ul style="list-style-type: none"> <li>35.7% of patients with active perianal fistula showed complete clinical resolution<sup>2</sup></li> </ul> <p><b>At Week 104:</b></p> <ul style="list-style-type: none"> <li>34.0% of all patients with at least 2 years of follow-up had CS-free clinical remission</li> <li>32.8% of patients with combined clinical and biochemical disease activity at baseline had CS-free clinical remission</li> </ul> <p><b>After 104 weeks:</b></p> <ul style="list-style-type: none"> <li>Patients had a 54.8% probability of remaining on UST</li> </ul> <p>The main reason for treatment discontinuation <b>after 52 weeks</b> was loss of response (66.7%). No new safety issues were observed</p>

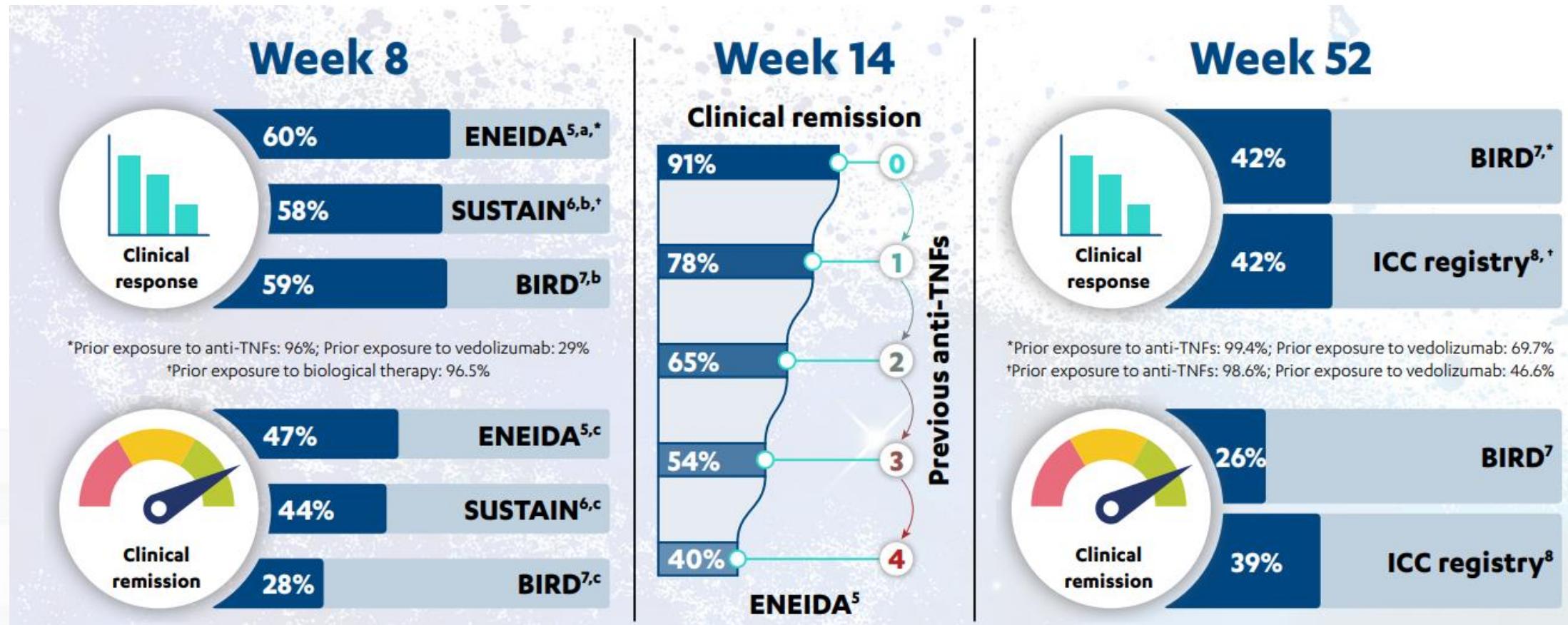
# Durable remission

Real-world data on the effectiveness of UST align with clinical trial observations (4 of 6)

## Real-world data in patients with CD (4/4)

Publication	Study design	Patient demographic	Patients followed	Main findings
Liefferinckx C, et al. 2019 <sup>1</sup> 	<ul style="list-style-type: none"><li>Observational, national, retrospective multicentre, cohort study in patients with CD in Belgium</li><li>Outcomes investigated included response and remission rates at Week 8, 16 and 52</li></ul>	All had previous exposure to ≥1 anti-TNF <ul style="list-style-type: none"><li>69.7% &gt;2 previous biologics, 94.4% &gt;1 prior biologic</li><li>59.2% previous surgery</li><li>23.1% EIMs</li><li>40.8% perianal disease</li></ul>	N=152	<b>After 1 year:</b> <ul style="list-style-type: none"><li>42.1% of patients had clinical response</li><li>25.7% of patients had clinical remission</li><li>38.8% of patients achieved CS-free clinical response</li><li>24.3% of patients achieved CS-free remission</li><li>38.8% of patients discontinued therapy during the 12 months of follow-up</li></ul>
Bar-Gil Shitrit A, et al. 2020 <sup>2</sup> 	<ul style="list-style-type: none"><li>Prospective, multicentre, Israeli study in patients with active CD treated with UST for 24 weeks</li></ul>	Patients with active CD: All had previous exposure to ≥1 biologic <ul style="list-style-type: none"><li>80.5% &gt;2 previous biologics, 19.4% 1 previous biologic</li><li>51.3% previous surgery</li><li>62.5% stricturing and penetrating disease</li></ul>	N=106	<b>At Week 24:</b> <ul style="list-style-type: none"><li>52% of these patients had a clinical response, with mean HBI reduction from <math>8.34\pm3.8</math> to <math>6.8\pm4.4</math> (<math>p=0.001</math>)</li><li>31.1% of patients achieved clinical remission</li><li>90.5% of patients continued treatment</li><li>15 patients reported minor AEs; 10.4% discontinued treatment</li></ul>

# Ustekinumab en práctica clínica real



# TRATAMIENTO TEMPRANO EN ENF.DE CROHN



# La importancia de un comienzo temprano

La definición de París de EC “temprana” para estudios clínicos:<sup>1</sup>

- Duración de la enfermedad ≤18 meses
- Sin fármacos modificadores de la enfermedad previos (inmunomoduladores, biológicos)

 El tratamiento efectivo temprano **disminuye la actividad inflamatoria** (frente al tratamiento posterior/convencional)<sup>2</sup>



La intervención temprana en la EC podría **prevenir el daño intestinal**, la **discapacidad** y la necesidad de **resección intestinal**, y podría cambiar la historia natural de la enfermedad<sup>3</sup>



El tratamiento temprano puede **reducir** significativamente el **riesgo de complicaciones** y aumentar el tiempo de remisión<sup>4</sup>



La **intervención temprana** es un objetivo prometedor para los ensayos de **modificación de la enfermedad**<sup>5</sup>

1. Peyrin-Biroulet L, et al. Am J Gastroenterol 2012;107:1770–1776; 2. Colombel JF, et al. Gastroenterology 2017;152:351–361; 3. Zhu M, et al. BMC Gastroenterol 2020;20:241; 4. Danese S, et al. Gut 2017;66:2179–2187; 5. Rodríguez-Lago I, et al. Ann of Gastroenterol 2020;33:443–452.

# El uso temprano de biológicos se asocia con mejores resultados clínicos en comparación con el manejo tardío/convencional



Mejores resultados clínicos  
en pacientes adultos y pediátricos



Tasas de recaída más bajas



Mayores tasas de remisión clínica



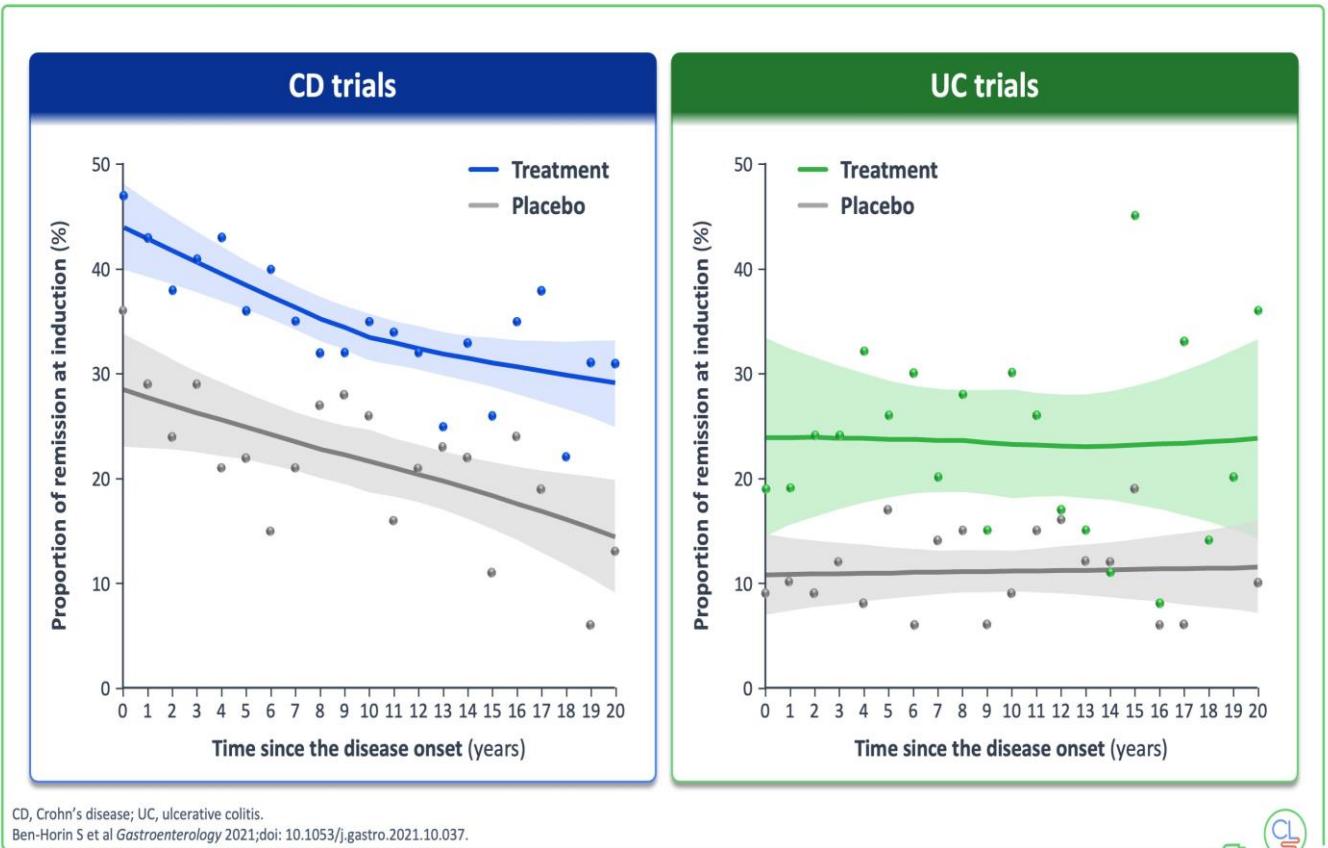
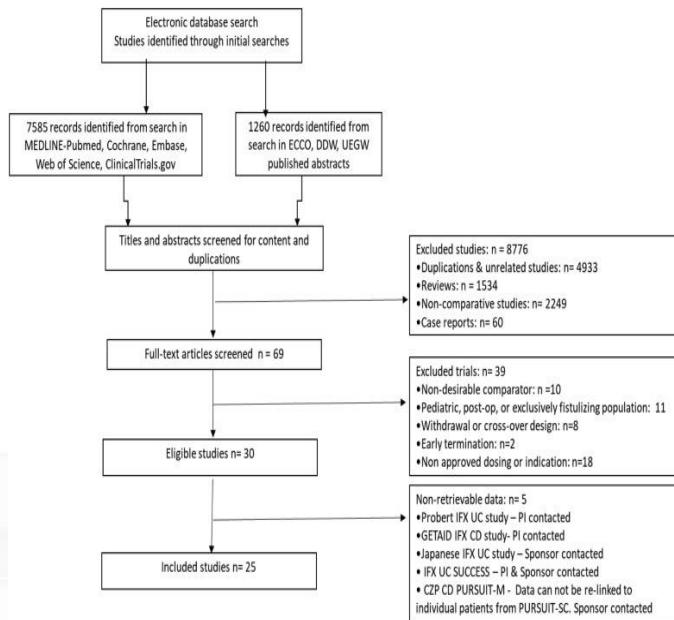
Mayores tasas de curación de  
mucosa



No solo en ensayos clínicos prospectivos,  
sino también en entornos del mundo real

# Eficacia de los fármacos biológicos en la EII de corta duración frente a la de larga duración

- Revisión sistemática y metaanálisis
- 25 ECA (N=6168 EC y N=3227 CU)
- IFX, ADL, CER, GOL, NAT y VED



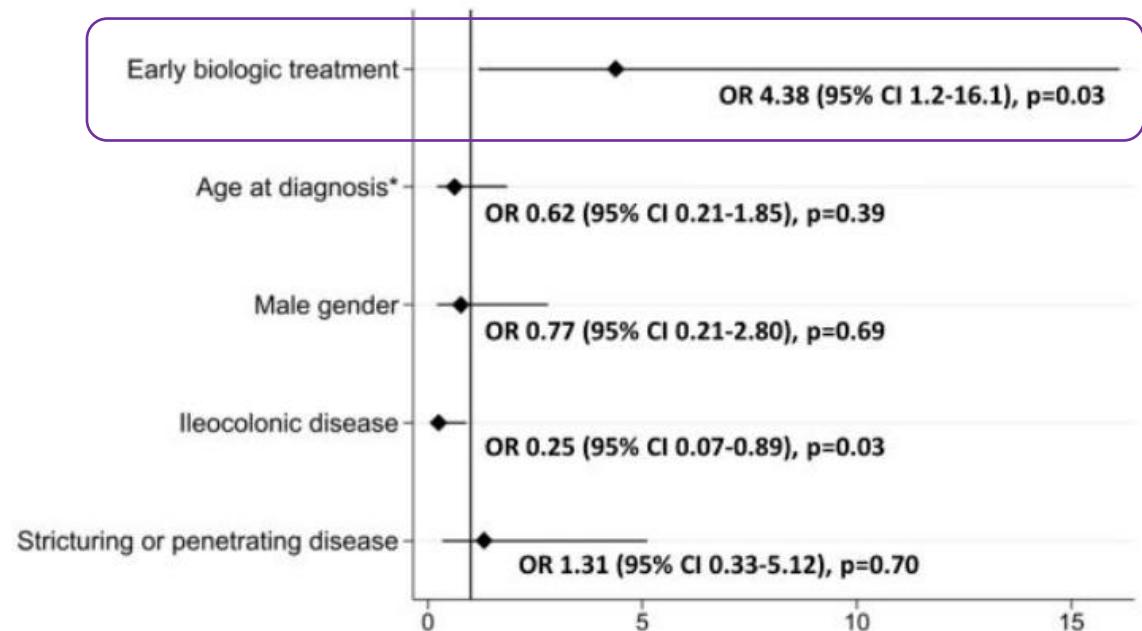
**EC→Tasas de inducción a la remisión más altas en el grupo de placebo y pacientes en brazos activos con enfermedad de corta duración de ≤18 meses vs >18 meses (41,4% vs 29,8%)**

# Impacto clínico del abordaje temprano

- Estudio retrospectivo unicéntrico
- Objetivo: evaluar la eficacia del tto biológico temprano para conseguir **curación transmural**
- Temprano vs tardío (<12 ó >12 meses desde diagnóstico)

El tratamiento temprano con biológico asocia independientemente con mayores tasas de curación transmural

Figure 1: Multivariate logistic regression model for the prediction of the achievement of transmural healing



# Estudios que actualmente exploran el abordaje temprano

KEY  
FINDINGS  
TO DATE

KEY  
ONGOING  
STUDIES

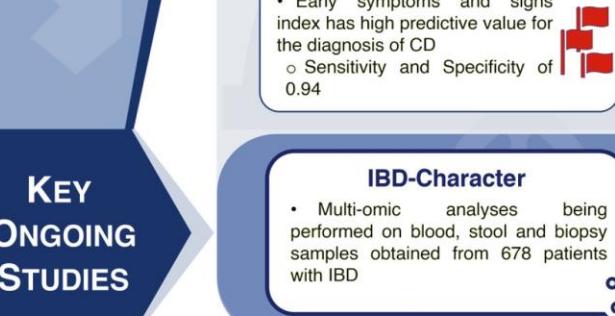
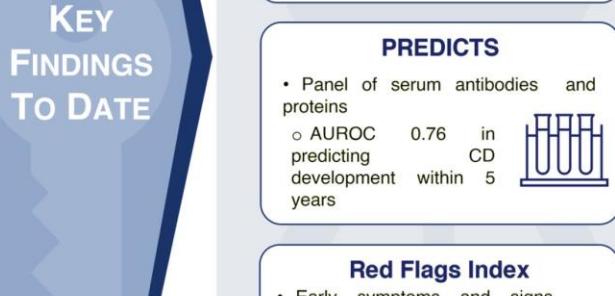
## EARLY DIAGNOSIS

- GEM**
  - UC: faecal proteolytic activity precedes diagnosis
  - CD: increased intestinal permeability associated with HR 3.03 (95% CI 1.64-5.63) of CD

- PREDICTS**
  - Panel of serum antibodies and proteins
    - AUROC 0.76 in predicting CD development within 5 years

- Red Flags Index**
  - Early symptoms and signs index has high predictive value for the diagnosis of CD
  - Sensitivity and Specificity of 0.94

- IBD-Character**
  - Multi-omic analyses being performed on blood, stool and biopsy samples obtained from 678 patients with IBD

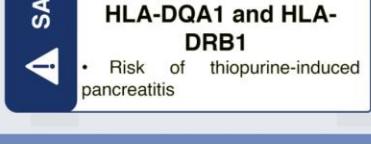


## EARLY STRATIFICATION

- GWAS**
  - Distinct genes associated with worse disease outcome *but low odds ratios*
  - Polygenic risk scores?

- RISK**
  - Gene signature of ileal genes controlling extracellular matrix production
    - HR 1.70 (95% CI 1.12-2.57) of strictureting behaviour

- TPMT and NUDT15**
  - Risk of thiopurine-induced myelosuppression
- HLA-DQA1 and HLA-DRB1**
  - Risk of thiopurine-induced pancreatitis



RESPONSE and NON-RESPONSE

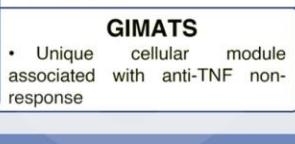
- Fluorescent targeting**
  - Anti-TNF response – cells with membrane bound TNF
    - Clinical response at week 12: 92% vs 15%, p<0.01

- HLA-DQA1\*05 (PANTS)**
  - Associated with greater likelihood of immunogenicity to infliximab and adalimumab
    - HR of 1.90 (95% CI 1.60-2.25)

- OSM**
  - High pre-treatment OSM expression strongly associated with anti-TNF non-response
    - RR 5.00 (95% CI 1.4-17.9)

- TREM-1**
  - Colonic biopsies predicting clinical non-response
    - AUC 0.82

- GIMATS**
  - Unique cellular module with anti-TNF non-response



## EARLY TREATMENT

### REACT-1

- Early combined immuno-suppression (ECI) not better than conventional management (CM) in treating CD symptoms
  - Clinical remission 66% vs 62%, p=0.52
- BUT lower 24 month rates of surgery, hospital admission and serious disease related complications in ECI practices vs CM practices
  - Adverse outcomes 28% vs 35%, p<0.01

### POCER

- In postoperative CD, active control with early colonoscopy and treatment escalation for recurrence is better than standard treatment alone for prevention of recurrence
  - Endoscopic recurrence 49% vs 67%, p=0.03

### REACT-2

- Cluster RCT comparing endoscopy-based treatment escalation vs clinical symptom-based treatment escalation in 1100 patients with CD

## EARLY MONITORING

### CALM

- Timely treatment escalation based on clinical symptoms and biomarkers results in better clinical and endoscopic outcomes than decisions driven by symptoms alone in CD
  - Endoscopic remission 46% vs 30%, p=0.01
- Deep remission associated with lower risk of major adverse outcome
  - HR 0.19 (95% CI 0.07-0.31)

### STARDUST

- In CD patients treated with ustekinumab, tight monitoring and standard of care strategies had similar rates of steroid-free clinical remission and endoscopic response at week 48.
  - Clinical remission 56% vs 63%, NS
  - Endoscopic response 34% vs 29%, NS

### VERDICT

- 1<sup>st</sup> tight control RCT in UC to determine the optimal treatment targets in 660 patients with UC

**Figure 3.** Diagram to summarize data from the most promising current and future studies exploring early diagnosis, early stratification, early treatment, and monitoring. Highlighting findings from the key studies to date on early diagnosis, stratification, treatment, and monitoring. Subsequently highlighting the most promising upcoming studies, which will provide key data to support further progress in these topics.

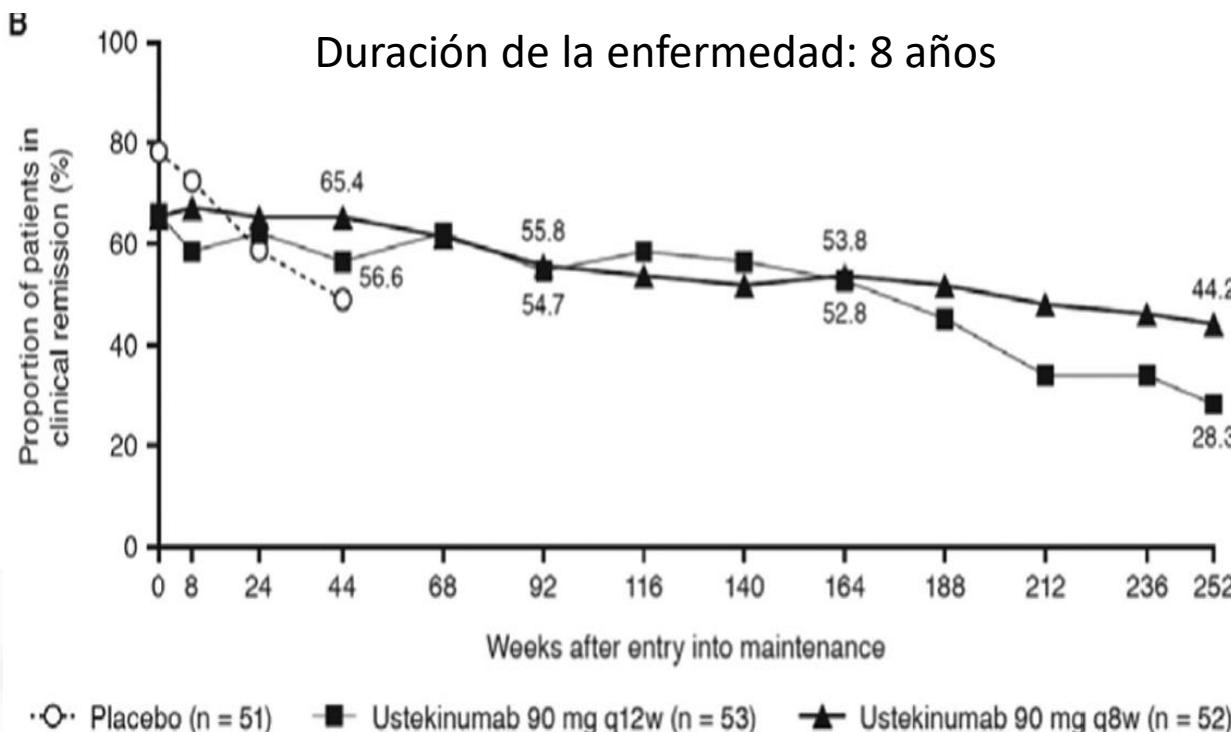
**Table 3** List of relevant cohort studies on early intervention in CD

Author (Year)	Study design	Intervention/control	Early CD definition	Primary outcome	Significant results
Safroneeva et al (2015) <sup>38</sup>	Prospective observational cohort	Early use of anti-TNF and/or immunomodulators	24 months	Development of complications	Early treatment was associated with reduced risk of bowel strictures (HR 0.496, p=0.004 for IM; HR 0.276, p=0.018 for anti-TNF) Early immunosuppression was associated with reduced risk of intestinal surgery (HR 0.322, p=0.005), perianal surgery (HR 0.361, p=0.042) and any disease complication (HR 0.567, p=0.006)
Kwak et al (2014) <sup>39</sup>	Retrospective cohort	Early immunomodulator use versus conventional therapy	6 months in the ET group	Clinical remission	Clinical remission and corticosteroid-free remission rates higher in the ET group (p=0.043 and p=0.035). Adverse events also more frequent in the ET group (p=0.029)
Kim et al (2016) <sup>41</sup>	Retrospective study	Early immunomodulator use versus conventional therapy	6 months in the ET group	Need for surgery	ET was associated with lower risk of surgery (p=0.017) and delayed onset of complications (p=0.050)
Nuij et al (2015) <sup>40</sup>	Retrospective cohort	Early anti-TNF versus conventional step-up approach	≤16 months	IBD-related complications	No differences in terms of IBD-related complications and rates of mucosal healing between the two groups

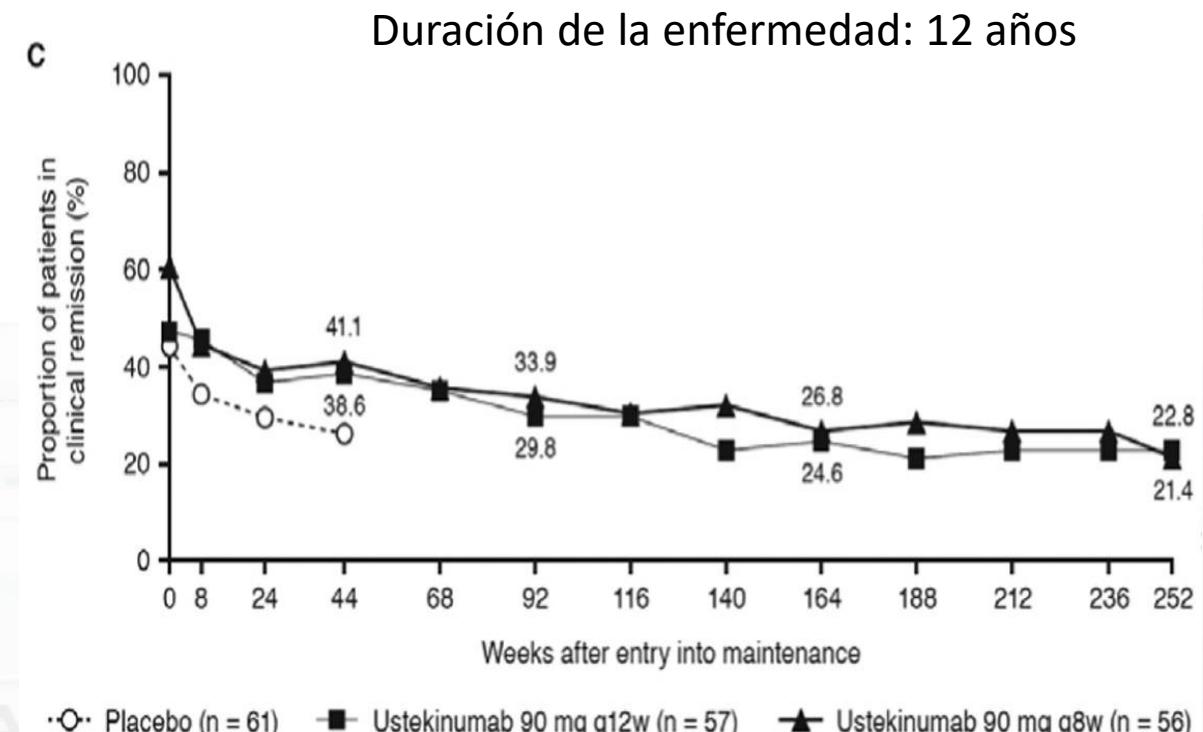
anti-TNF, antitumour necrosis factor  $\alpha$ ; CD, Crohn's disease; ET, early treatment; IBD, inflammatory bowel disease; IM, immunomodulator.

# Early treatment UST: CD data

## Bionaive patients



## TNF-failure patients

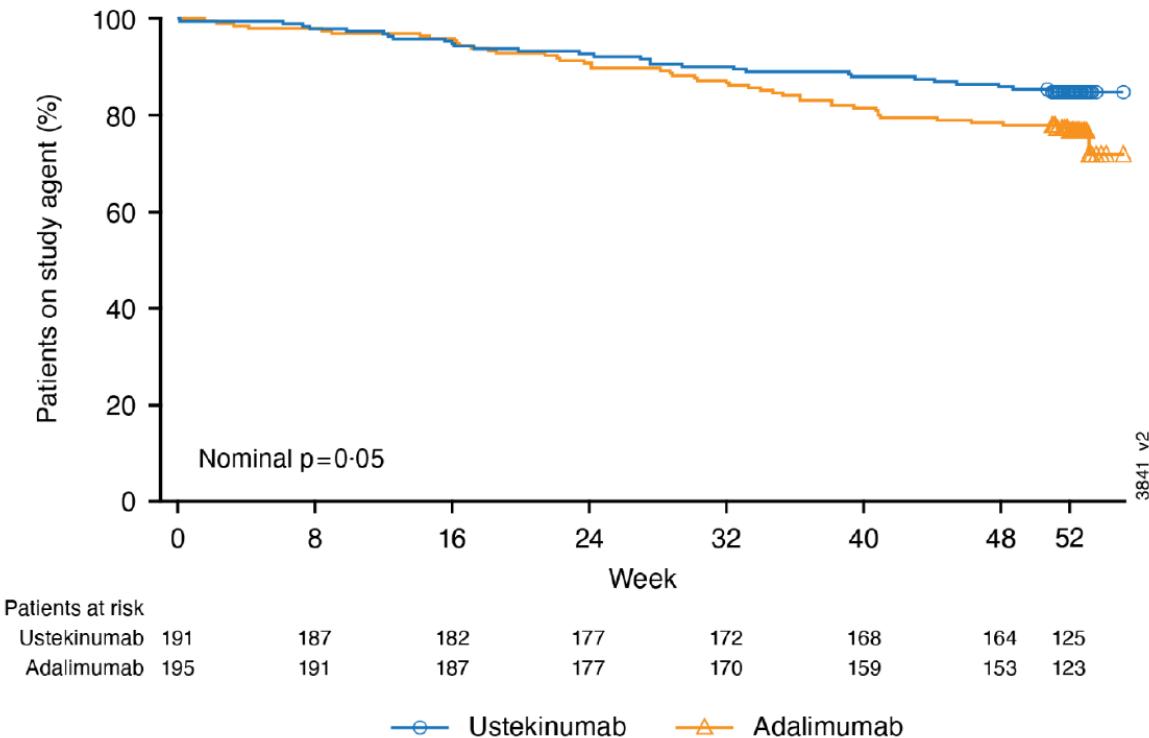
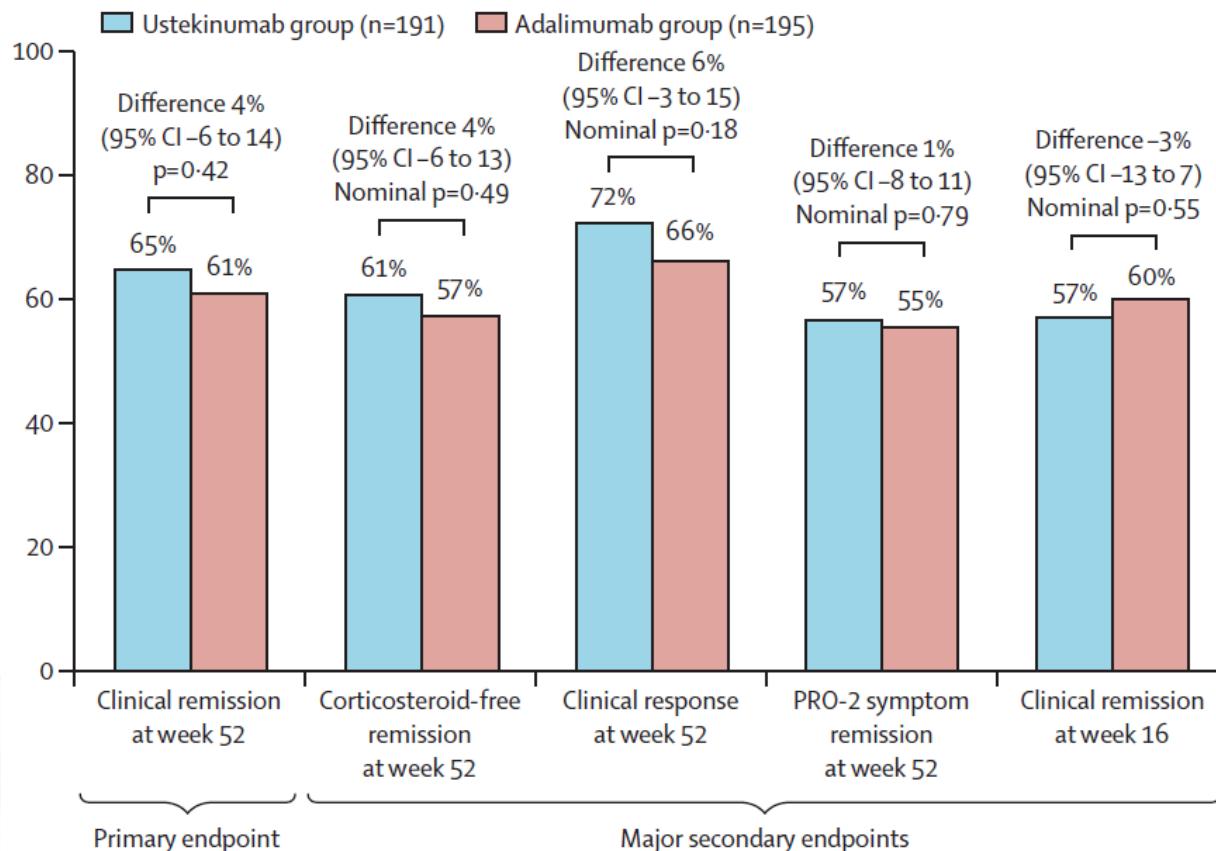


# Early treatment UST: SEAVUE

- ECA: UST vs ADA
- Pacientes con EC moderada grave
- Bio-nave (previamente no expuestos a biológicos)
- Fracaso o intolerancia a terapia convencional
- No se permitieron modificaciones de dosis

	Adalimumab	Ustekinumab	Total
Randomized patients	195	191	386
Age at diagnosis, median (years)	30.0	28.8	29.6
CD duration in years, median (mean)	2.62 (5.8)	2.57 (5.4)	2.58 (5.6)
CDAI score, median (mean)	291.0 (300)	287.0 (302)	289.5 (301)
SES-CD, median (mean)	8.0 (9.8)	7.0 (9.9)	8.0 (9.9)
IBDQ score (32-224), Median	121.0	115.0	117.5
Fecal calprotectin-mg/kg, median(mean)	545.5 (1272)	895.0 (1392)	671.0 (1331)
CRP (mg/L), median (mean)	5.51 (11.9)	6.21 (14.5)	5.73 (13.2)
On corticosteroids, including budesonide	75 (38.5%)	70 (36.6%)	145 (37.6%)
Pred-equiv. dose, median (n)	20mg (48)	20mg (43)	20mg (91)
≥1 prior intra-abdominal Crohn's-related surgeries	37 (19.0%)	29 (15.2%)	66 (17.1%)

# Early treatment UST: SEAVUE



Treatment retention measured by time-to-treatment discontinuation through week 52 was analysed and compared using the Kaplan-Meier estimator and log-rank test in post hoc analysis.

- No hubo diferencias significativas de eficacia y seguridad en ambos grupos en semana 52
- Un 15% de los pacientes con UST y 24% con ADL abandonaron el estudio antes de la semana 52

# Patient Demographics based on Prior Biologic Exposure Status

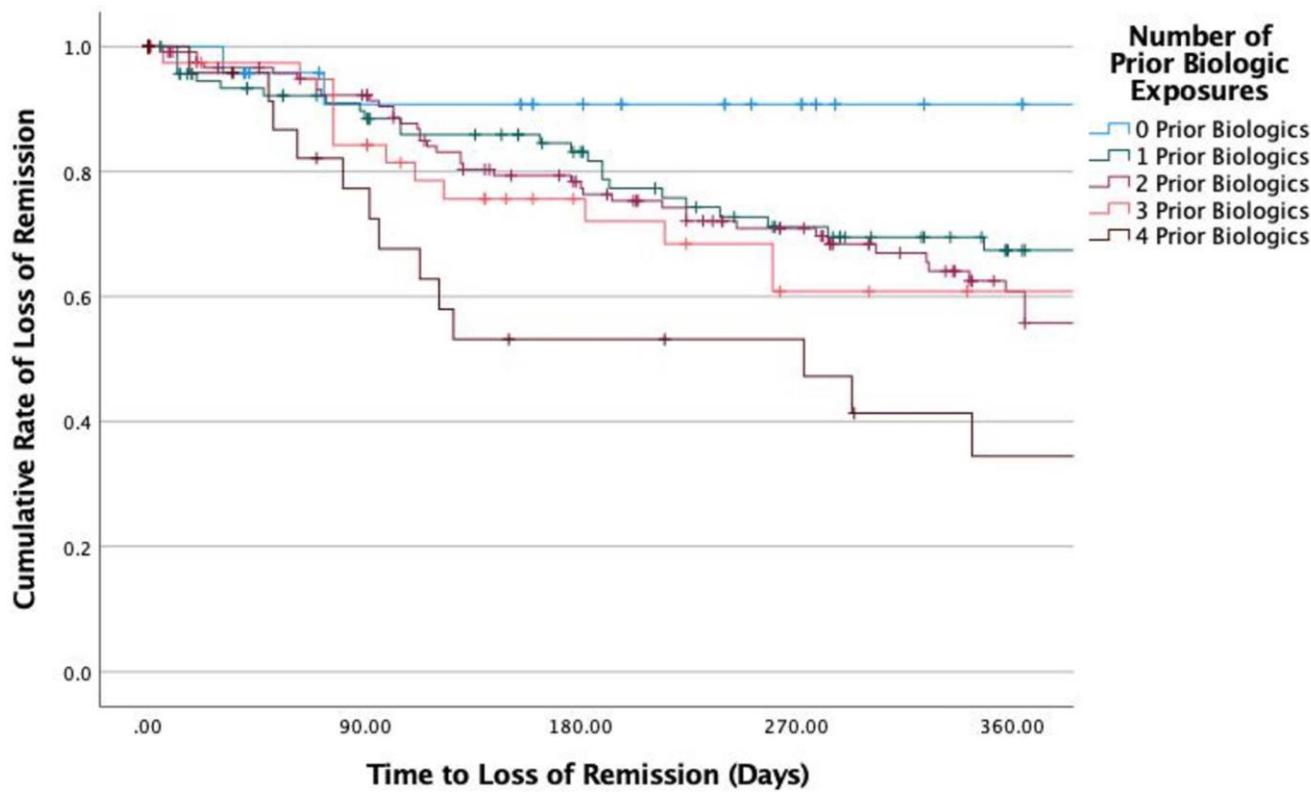
Demographics Based on Prior Biologic Exposure Status	All UST treated n=1113	Biologic naïve n=106	1 Biologic n=289	2 Biologics n=437	3 Biologics n=187	4 Biologics n=94
Median follow-up in days (IQR)	386d (204-562)	340d (200-545)	407d (205-549)	368d (194-546)	469d (235-706)	444d (223-603)
Age diagnosis, median years (IQR)	23 (16-33)	30 (22.8-44.3)	26 (19-40)	21 (15-31)	20 (14-30)	18.5 (13-27.3)
Age at UST initiation, median years (IQR)	38 (28-52)	48 (32-52)	40 (28-55)	37 (26-49)	38 (28-51)	34 (26-45.3)
Disease duration, median years (IQR)	11 (5-20)	5 (1-26)	9 (4-18)	12 (6-19)	15 (8-22)	13 (9-20)
BMI (kg/m <sup>2</sup> ), median (IQR)	24.4 (21.3-28.3)	26 (21.2-28.1)	24.9 (21.8-30)	23.3 (21-28.2)	23.5 (21.1-30)	24.9 (21.7-28)
C-reactive protein, median (IQR)	1.7 (0.5-6.7)	1.1 (0.1-3.7)	1.2 (0.4-5.1)	2.0 (0.5-8.6)	2.6 (0.7-6.2)	1.9 (0.5-8.9)
Albumin, median (IQR)	4.0 (3.5-4.3)	4.1 (3.5-4.3)	4.2 (3.7-4.3)	4.0 (3.5-4.3)	3.8 (3.4-4.2)	3.9 (3.5-4.1)
Female gender, n (%)	576 (51.8)	36 (34)	154 (53.3)	217 (49.7)	122 (65.2)	47 (50.0)
Never smoker, n (%)	835 (75)	80 (75.5)	222 (76.8)	314 (71.9)	140 (74.9)	79 (84.0)
Prior CD-related hospitalization, n (%)	805 (72)	52 (49.1)	180 (62.3)	339 (77.6)	153 (81.8)	81 (86.2)
Disease extent*						
L1, n (%)	217 (19.5)	32 (30.2)	73 (25.3)	74 (16.9)	23 (12.3)	15 (16.0)
L2, n (%)	173 (15.5)	12 (11.3)	57 (19.7)	72 (16.5)	21 (11.2)	11 (11.7)
L3, n (%)	723 (65.0)	62 (58.5)	159 (55.0)	291 (66.6)	143 (76.5)	68 (72.3)
Stricturing/penetrating disease history, n (%)	678 (60.9)	48 (45.3)	163 (56.4)	272 (62.2)	134 (71.7)	61 (64.9)
Perianal disease, n (%)	413 (37.1)	22 (20.8)	74 (25.6)	200 (45.8)	70 (37.4)	47 (50.0)
Baseline ulceration, n (%)	915 (82.2)	92 (86.8)	238 (82.4)	353 (80.8)	154 (82.4)	78 (83.0)
Prior surgery, n (%)	658 (59.1)	34 (32.1)	135 (46.7)	284 (65.0)	133 (71.1)	72 (76.6)
Prior <i>C. diff</i> , n (%)	181 (16.3)	8 (7.5)	30 (10.4)	82 (18.8)	42 (22.5)	19 (20.2)
Prior malignancy, n (%)	94 (8.4)	16 (15.1)	33 (11.4)	25 (5.7)	14 (7.5)	6 (6.4)

BMI: body mass index; C. diff: Clostridioides difficile; CD: Crohn's disease; IQR: interquartile range; UST: ustekinumab;

\*Based on Montreal classification: L1=ileal; L2=colonic; L3=ileocolonic

# Durable Remission with Ustekinumab based on Prior Biologic Exposure

## Durable Remission with Ustekinumab based on Prior Biologic Exposure

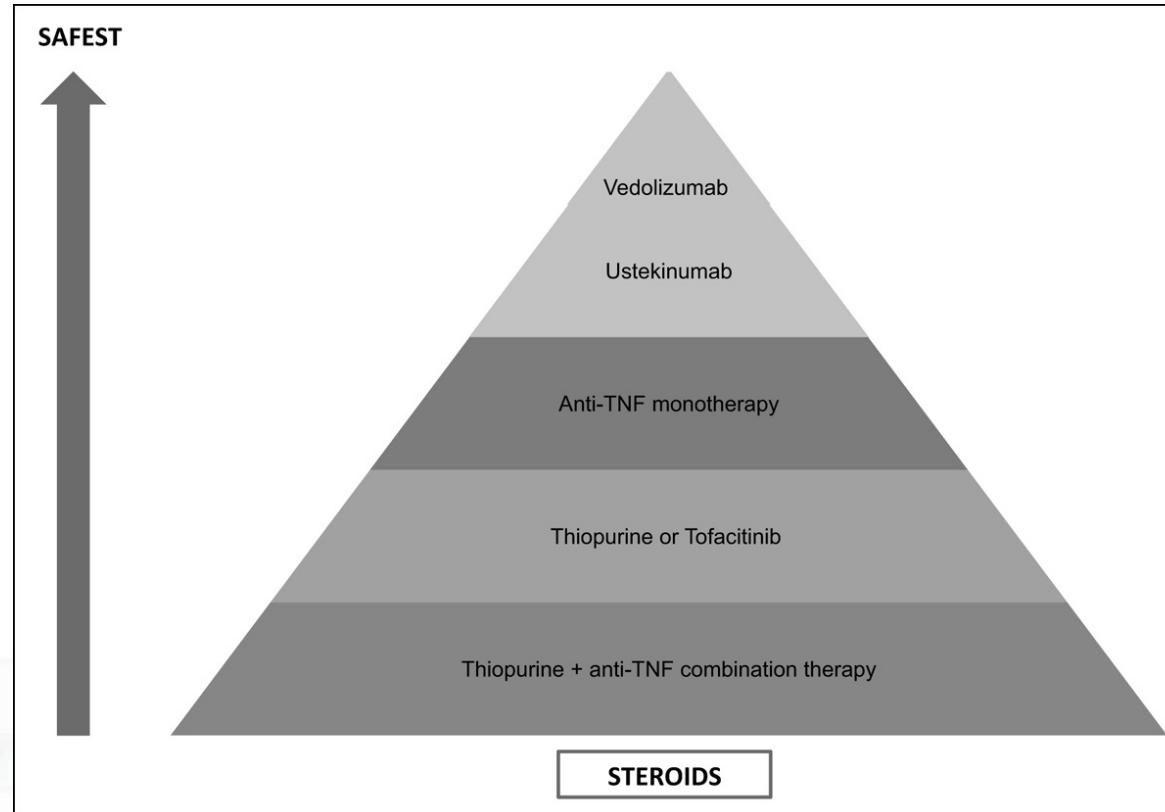


Rates of durable remission\* were significantly reduced based on the number of prior biologic exposures, (aHR per biologic exposure, 0.829; 95% CI, 0.74-0.94)†

\*Durable remission defined as achieving and maintaining clinical remission without loss of remission throughout duration of follow-up

†after adjusting for disease duration, albumin, history of stricturing or penetrating disease, prior perianal disease, and history of bowel surgery

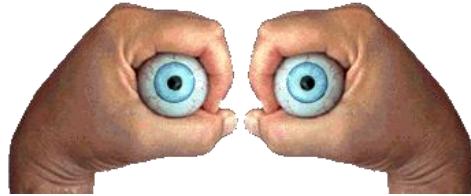
# Seguridad de los tratamientos para la Enfermedad Inflamatoria Intestinal



	Infections	Opportunistic infections	Malignancies	Immunologic issues	Thrombosis	Metabolic disorders
Thiopurine/Anti-TNF combo	++	++	+	+	-	+
Tofacitinib	+	+	N/A	-	+	+
Anti-TNF monotherapy	+	++	+	++	-	+
Vedolizumab	+/-	-	N/A	+	-	+/-
Ustekinumab	+/-	-	N/A	+	-	-

++: Strong association; +: association; +/-: possible association → adverse events reported in clinical trials, although incidence rates are comparable with placebo; -: no association; N/A: data not available. TNF, tumor necrosis factor; Include combo, combination therapy.

# Conclusiones



- La enfermedad de Crohn tiene un alto impacto en la calidad de vida de los pacientes y en el sistema
- La utilización de PROMs podrían ayudar al control de la enfermedad
- Los estudios RWE generan evidencia que puede ayudar a la optimización del tratamiento (efectividad y seguridad a largo plazo)
- El tratamiento temprano → beneficio claro → definir perfil de pacientes

# MUCHAS GRACIAS POR SU ATENCIÓN

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