Digestive Disease Week® MAY 6-9, 2023 | CHICAGO, IL EXHIBIT DATES: MAY 7-9, 2023

INTRODUCTION

Studies evaluating effectiveness in the real-world setting are relevant to provide generalizable clinical efficacy that confirm results reported by RCTs. Given the wide range of therapeutic options available for UC, it is of particular interest to assess the real-world effectiveness and safety of ustekinumab to enable patients and clinicians to make an informed decision.

AIM

The aim of this systematic review was to summarize reported evidence on the real-world outcomes of ustekinumab for UC and to conduct a meta-analysis of effectiveness and safety data.

METHOD

- A systematic search was conducted in electronic databases PubMed, Web of Science, EMBASE, and Science Direct, and conference proceedings until 15 September 2022 for real-world studies evaluating ustekinumab for UC.
- A random-effects meta-analysis model was used to calculate the pooled rates of clinical and safety outcomes.
- We evaluated the outcomes at week 8, weeks 12 to 16, month 6, and month 12.
- Need for colectomy and adverse events (AE) were reported as percentages and incidence rates (IRs) per 100 patientsyear (PY) of exposure.
- Joanna Briggs Institute (JBI) Critical Appraisal tool was used to assess the study quality and the risk of bias.
- The heterogeneity of each study was assessed with the I² statistic according to the recommendations of Cochrane Handbook for Systematic Reviews of Interventions

RESULTS

Of the 254 citations identified, **19 studies** were included with **3786 patients**. According to JBI criteria for quality assessment, 14 studies showed low risk of bias, and 5 articles showed moderate risk

Sixteen studies reported prior exposure to biologics or JAK inhibitors and included 1003 patients, of whom 92.3% were previously treated with any biologic, 61.1% with both anti-TNF and vedolizumab, and 16.4% with any biologic and tofacitinib (Figure 1).

Remission was achieved in 45.4% of patients at week 8 (95% confidence interval 30.1-60.6%), 43.8% (38.4-49.2%) at weeks 12 to 16, 44.6% (35.9-53.3%) at month 6, and 50.6% (36.3-64.8%) at month 12 (Figure 2).

Response was achieved in 61.2%, 59.4%, 65.2%, and 76.8% of patients at week 8, weeks 12 to 16, month 6, and month 12, respectively (Figure 3).

Corticosteroid-free remission was achieved in 18.7%, 36.8%, 34.5%, and 39% of patients at week 8, weeks 12 to 16, month 6, and month 12, respectively.

Endoscopic improvement was achieved in 29.9%, 24.3% %, and 58.2% of patients at weeks 12 to 16, month 6, and month 12, respectively.

Almost 30% of the patients needed **dose escalation**, which was effective in 40% of these patients.

The pooled rate of **persistence with ustekinumab** was 76.9% and 73.3% at month 9 and month 12, respectively.

The IRs of colectomy, AE, serious AE, and serious infections were 5.1, 7.9, 1 and 0.5 per 100 PY, respectively (Figure 4).

REAL-WORLD EFFECTIVENESS AND SAFETY OF USTEKINUMAB IN PATIENTS WITH ULCERATIVE COLITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

C. Taxonera¹, D. Olivares¹, O.N. López-García¹, C. Alba¹ ¹Hospital Clínico San Carlos, IBD Unit, Department of Gastroenterology, and Instituto de Investigación del Hospital Clínico San Carlos [IdISSC], Madrid, Spain





CONCLUSIONS

> The results of this meta-analysis of observational studies confirm the effectiveness of ustekinumab in a highly treatment-refractory population of patients with moderate-to-severe UC.

> The acceptable safety data presented here support the positive long-term benefit-risk profile of ustekinumab in the treatment of UC. > These real-world effectiveness and safety results were consistent with clinical trials and provide a broader perspective that can be used to aid treatment decisions in a more heterogeneous clinical setting.

umery et al. [7] (2021)

) chsenkühn et al. [8] (202

haparro et al. [9] (2021

arakkal et al. [23] (2021

Poster Number: Tu1770

		%			1			%	
	ES (95% CI)	Weight	Remission	n	Study		ES (95% CI)	Weight	Remissi
	368 (16 3, 61, 6)	14 18	7	19	Amiot et al. [6] (2020)		39.8 (30.3, 49.9)	19.57	41
		40.74			Ochsenk ühn et al. [8] (2020)		57.9 (33.5, 79.7)	5.26	11
	23.2 (15.1, 32.9)	18.74	22	95	Thunberg et al. [22] (2022)		40.7 (27.6, 55.0)	12.58	22
	53.7 (37.4, 69.3)	16.58	22	41	Chaparro et al. [9] (2021)		34.7 (25.3, 45.2)	19.27	33
	60.9 (38.5, 80.3)	14.84	14	23	Hong et al. [16] (2020)		42.6 (28.3, 57.8)	11.22	20
_ _	61.6 (50.5, 71.9)	18.24	53	86	Iborra et al. [24] (2022)		59.1 (36.4, 79.3)	6.03	13
_	38.2 (25.4, 52.3)	17.43	21	55	Ando et al. [28] (2022)		50.7 (38.4, 63.0)	14.65	35
	(()				Honap et al. [20] (2022)		48.9 (32.5, 61.7)	11.42	23
	45.4 (30.1, 60.6)	100.00			Overall	25 50	43.8 (38.4, 49.2)	100.00	
50 75	45.4 (30.1, 60.6)	100.00			Overall 2 D.	25 50 Month 12	^{43.8} (38.4, 49.2) 75 100 remission rate	(%)	
50 75 50 75	45.4 (30.1, 60.6)	100.00 %			Overall 2 D.	25 50 Month 12	remission rate	100.00 (%)	
50 75 50 75	45.4 (30.1, 60.6) 100 sion rate (%) ES (95% CI)	100.00 % Weight	Remission	n	Overall 2 D. Study	25 50 Month 12	^{43.8} (38.4, 49.2) 75 100 remission rate ES (95% CI)	100.00 (%) % Weight	Remiss
50 75 6 remis	45.4 (30.1, 60.6) 100 ssion rate (%) ES (95% CI) 30.1 (21.5, 39.9)	100.00 % Weight 19.20	R em ission	n 103	Overall 2 D. Study Fumery et al. [7] (2021)	25 50 Month 12	43.8 (38.4, 49.2) 75 100 remission rate ES (95% CI) 34.0 (24.9, 44.0)	100.00 (%) % Weight 16.91	R em iss
50 75 6 remis	45.4 (30.1, 60.6) 100 Solon rate (%) ES (95% CI) 30.1 (21.5, 39.9) 57.9 (33.5, 79.7)	100.00 % Weight 19.20 9.37	Remission 31 11	n 103 19	Overall 2 D. Study F um ery et al. [7] (2021) O chsenkühn et al. [8] (2020)	25 50 Month 12	43.8 (38.4, 49.2) Temission rate ES (95% Cl) 34.0 (24.9, 44.0) 52.6 (28.9, 75.6)	100.00 (%) % Weight 16.91 12.52	R em iss 35 10
50 75 6 remis	45.4 (30.1, 60.6) 45.4 (30.1, 60.6) 100 Ssion rate (%) ES (95% CI) 30.1 (21.5, 39.9) 57.9 (33.5, 79.7) 38.6 (28.1, 49.9)	100.00 % Weight 19.20 9.37 17.79	R emission 31 11 32	n 103 19 83	Overall 2 D. Study F um ery et al. [7] (2021) O chsenkühn et al. [8] (2020) C haparro et al. [9] (2021)	Month 12	43.8 (38.4, 49.2) Temission rate ES (95% Cl) - 34.0 (24.9, 44.0) 52.6 (28.9, 75.6) 33.3 (21.1, 47.5)	100.00 (%) % Weight 16.91 12.52 15.93	R em iss 35 10 18
50 75 6 remis	45.4 (30.1, 60.6) 45.4 (30.1, 60.6) 5500 rate (%) ES (95% CI) 30.1 (21.5, 39.9) 57.9 (33.5, 79.7) 38.6 (28.1, 49.9) 40.0 (30.1, 50.6)	100.00 % Weight 19.20 9.37 17.79 18.33	R emission 31 11 32 38	n 103 19 83 95	Overall 2 D. Study F um ery et al. [7] (2021) O chsenkühn et al. [8] (2020) C haparro et al. [9] (2021) H ong et al. [16] (2020)	Month 12	43.8 (38.4, 49.2) Temission rate ES (95% Cl) - 34.0 (24.9, 44.0) 52.6 (28.9, 75.6) 33.3 (21.1, 47.5) 45.0 (23.1, 68.5)	100.00 (%) % Weight 16.91 12.52 15.93 12.75	R em iss 35 10 18 9
50 75 6 remis	45.4 (30.1, 60.6) 45.4 (30.1, 60.6) 100 Ssion rate (%) ES (95% CI) 30.1 (21.5, 39.9) 57.9 (33.5, 79.7) 38.6 (28.1, 49.9) 40.0 (30.1, 50.6) 63.3 (43.9, 80.1)	100.00 % Weight 19.20 9.37 17.79 18.33 12.36	Remission 31 11 32 38 19	n 103 19 83 95 30	Overall 2 D. Study F um ery et al. [7] (2021) O ch senkühn et al. [8] (2020) C haparro et al. [9] (2021) H ong et al. [16] (2020) Aoki et al. [19] (2022)	Month 12	43.8 (38.4, 49.2) Temission rate ES (95% Cl) 34.0 (24.9, 44.0) 52.6 (28.9, 75.6) 33.3 (21.1, 47.5) 45.0 (23.1, 68.5) 42.9 (21.8, 66.0)	100.00 (%) % Weight 16.91 12.52 15.93 12.75 12.97	Remiss 35 10 18 9 9
6 remis	45.4 (30.1, 60.6) 45.4 (30.1, 60.6) 100 Ssion rate (%) ES (95% CI) 30.1 (21.5, 39.9) 57.9 (33.5, 79.7) 38.6 (28.1, 49.9) 40.0 (30.1, 50.6) 63.3 (43.9, 80.1) 43.6 (27.8, 60.4)	100.00 % Weight 19.20 9.37 17.79 18.33 12.36 13.57	Remission 31 11 32 38 19 17	n 103 19 83 95 30 39	Overall 2 D. D. Study F um ery et al. [7] (2021) O ch senkühn et al. [8] (2020) C haparro et al. [9] (2021) H ong et al. [16] (2020) Aoki et al. [19] (2022) Ando et al. [26] (2022)	Month 12	43.8 (38.4, 49.2) Temission rate ES (95% Cl) 34.0 (24.9, 44.0) 52.6 (28.9, 75.6) 33.3 (21.1, 47.5) 45.0 (23.1, 68.5) 42.9 (21.8, 66.0) 72.2 (54.8, 85.8)	100.00 (%) % Weight 16.91 12.52 15.93 12.75 12.97 15.25	Remiss 35 10 18 9 9 26
6 remis	45.4 (30.1, 60.6) 45.4 (30.1, 60.6) 100 5500 rate (%) ES (95% CI) 30.1 (21.5, 39.9) 57.9 (33.5, 79.7) 38.6 (28.1, 49.9) 40.0 (30.1, 50.6) 63.3 (43.9, 80.1) 43.6 (27.8, 60.4) 57.9 (33.5, 79.7)	100.00 % Weight 19.20 9.37 17.79 18.33 12.36 13.57 9.37	Remission 31 11 32 38 19 17 11	n 103 19 83 95 30 39 19	Overall 2 D. D. Study Fumery et al. [7] (2021) Ochsenkühn et al. [8] (2020) Chaparro et al. [9] (2021) Hong et al. [16] (2020) Aoki et al. [19] (2022) Ando et al. [26] (2022) Iborra et al. [24] (2022)	Month 12	43.8 (38.4, 49.2) 75 100 remission rate ES (95% Cl) 34.0 (24.9, 44.0) 52.6 (28.9, 75.6) 33.3 (21.1, 47.5) 45.0 (23.1, 68.5) 42.9 (21.8, 66.0) 72.2 (54.8, 85.8) 77.8 (52.4, 93.6)	100.00 (%) % Weight 16.91 12.52 15.93 12.75 12.97 15.25 13.66	Remiss 35 10 18 9 9 26 14

Figure 2. Pooled remission rates at weeks 8 and 12-16, and months 6 and 12.



Effect (95% CI) Weight



Effect (95% CI) Weight AEs

B. Adverse events incidence rate per 100 patients-year



C. Serious infections incidence rate per 100 patients-year

1		%	Serious	
Study (Year)	Effect (95% CI)	Weight	infections	PY
Chiapetta et al. [5] (2021)	0.00 (-3.43, 3.43)	5.87	0	54
Fumery et al. [7] (2021)	1.04 (-1.00, 3.08)	16.63	1	96
Dchsenkühn et al. [8] (20 2 0)	→ 0.00 (-9.74, 9.74)	0.73	0	19
Chaparro et al. [9] (2021)	1.19 (-0.46, 2.84)	25.49	2	168
Dalal et al. [15] (2021)	0.00 (-1.71, 1.71)	23.76	0	108
long et al. [16] (2020)	0.00 (-4.31, 4.31)	3.72	0	43
Ecker et al. [21] (2021) 🗲	0.00 (-30.83, 30.83) 0.07	0	6
Alsoud et al. [18] (2022)	0.00 (-4.51, 4.51)	3.40	0	41
Aoki et al. [19] (2022) <	> 0.00 (-7.70, 7.70)	1.16	0	24
	0.00 (-2.84, 2.84)	8.55	0	65
Parakkal et al. [23] (202 🗱	> 0.00 (-5.14, 5.14)	2.62	0	36
Ando et al. [26] (2022)	0.00 (-2.94, 2.94)	7.99	0	63
Overall, DL (1 ² = 0.0%, p = 0.999)	> 0.48 (-0.35, 1.31)	100.00		
-5 0	5			

Figure 4. Pooled incidence rates of colectomy, adverse events (AE), serious AE, and serious infections

CONTACT INFORMATION

Carlos Taxonera, Inflammatory Bowel Disease Unit, Department of Gastroenterology, Hospital Clinico San Carlos. c/ Profesor Martín Lagos s/n, 28040 Madrid, Spain. E-mail: carlos.taxonera@salud.madrid.org

