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## Letter to the Editor

### Vedolizumab has no efficacy on articular manifestations in patients with spondyloarthritis associated with inflammatory bowel disease



#### ARTICLE INFO

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Data on the effects of vedolizumab (VDZ) on articular manifestations in patients with inflammatory bowel disease (IBD)-associated Spondyloarthritis (SpA) are still scarce and remain controversial. A post hoc analysis of a randomised controlled trial in CD patients receiving VDZ suggested a trend towards resolution of extra-intestinal manifestations such as articular manifestations [1]. Alongside this, in a recent study published by the GETAID, the authors reported that 21 (44.7%) patients with inflammatory arthralgia/arthritis had complete remission for inflammatory arthralgia/arthritis [2]. However, case series of new-onset or exacerbated arthritis and sacroiliitis in patients treated with VDZ have recently been reported [3,4,5], while preliminary data from a separate cohort of patients with UC and CD have shown clinical benefits of VDZ to articular manifestations in patients with IBD-associated SpA [6]. The purpose of this study was to:

- assess the effect of VDZ on articular manifestations in patients with IBD-associated SpA, and;
- evaluate new onset of SpA during VDZ treatment.

We performed an observational retrospective study at a tertiary department of gastroenterology in Lille, France. Data were collected to identify patients with Crohn's disease (CD) or ulcerative colitis (UC) who had received VDZ. Patients were included if they met the following criteria:

- a diagnosis of CD or UC;
- among patients with IBD-associated SpA, a diagnosis of SpA based on the ASAS (Assessment of SpondyloArthritis international Society) criteria and an expert opinion;
- age  $\geq$  18 years old;
- VDZ treatment initiation between July 2014 and July 2017; and;
- follow-up  $\geq$  3 months (end of the induction phase) after VDZ initiation.

The study protocol was approved by the local Investigational Review Board (reference 2017-A00449-46). A total of 171 patients diagnosed with IBD began VDZ. Baseline demographic and clinical

**Table 1**

Characteristics of patients and main results.

Variable	n = 171
Age (years), mean $\pm$ SD	37.8 $\pm$ 12.9
Female gender, n (%)	110 (64.3)
Weight (kg), mean $\pm$ SD	67.3 (16.0)
Height (cm), mean $\pm$ SD	168.4 (8.8)
Body mass index (kg/m <sup>2</sup> ), mean $\pm$ SD	23.7 (4.8)
Smokers, n (%)	
Never	103 (60.2)
Current	43 (25.2)
Ex	25 (14.6)
Type of disease, n (%)	
Crohn's disease	104 (60.8)
Ulcerative colitis	67 (39.2)
Duration of disease (years), mean $\pm$ SD	10.5 (7.6)
Localization of the disease, n (%)	
Ulcerative colitis	
Left-sided	31 (46.3)
Extensive	36 (53.7)
Crohn's disease	
Ileal	27 (15.8)
Ileocolic	69 (40.4)
Colic	8 (4.7)
Perianal disease	36 (21.1)
Previous resections, n (%)	62 (36.3)
Previous biological treatments, n (%)	166 (97.1)
Duration of follow-up under vedolizumab (months), mean $\pm$ SD	14.3 (12.0)
IBD-associated SpA, n (%)	
No history	157 (91.8)
History but in clinical remission at VDZ initiation	10 (5.8)
Active at VDZ initiation	4 (2.4)
Clinical benefit to SpA following VDZ initiation (n = 4)	
No clinical benefit	4/4 (100)
Exacerbation of SpA in patients with inactive disease at VDZ initiation (n = 10)	
Yes	6 (60)
No	4 (40)

characteristics are shown in Table 1. The mean follow-up of the entire cohort was  $14.3 \pm 12.0$  months. Fourteen (8.2%) patients had a history of IBD-associated SpA when VDZ treatment was started: 10 (5.8%) were in clinical remission and 4 (2.4%) had active SpA. Outcome in vedolizumab-treated patients with IBD-associated SpA is illustrated in Table 2. Firstly, in the 4 patients with active SpA, no clinical benefits to SpA were found following VDZ initiation. Secondly, among the 10 patients in clinical remission at the start of VDZ treatment, SpA was found to be exacerbated in 6 patients, whereas no effect was reported in the remaining 4 patients. Thirdly, new-onset SpA during VDZ treatment was suspected in 1 patient but not confirmed. This is a “real-life” report on the clinical effects of VDZ on articular manifestations in patients with IBD-associated SpA. Regarding our results, we hypothesized that VDZ simply has no efficacy in SpA, which can be explained if it can be demonstrated that VDZ intervenes solely in the interaction of  $\alpha 4\beta 7$  with

**Table 2**  
Outcome in vedolizumab-treated patients with inflammatory bowel disease (IBD) associated spondyloarthritis.

	Age, M/F	IBD type, duration (years)	SpA type /HLA-B27+	SpA active	Duration VDZ exposure (months)	Evaluation of intestinal inflammatory activity at month 3–6	SpA outcome	Therapy and outcome
1	31, F	CD, 11	Nr-Axial SpA/Yes	Yes	8	HBI 12–14	No clinical improvement “Arthralgia <sup>a</sup> ”	Switch to UST
2	37, M	CD, 14	pSpA (oligoarthritis)/No	Yes	3	HBI 8–12	No clinical improvement “Arthralgia <sup>a</sup> ”	Switch to CTZ
3	43, M	CD, 22	AS/Yes	Yes	66	HBI < 4	CRP 44 mg/L No clinical improvement Inflammatory back pain	Switch to GOL
4	23, M	CD, 6	Nr-Axial SpA/Yes	Yes	18	HBI < 4	No clinical improvement Inflammatory back pain	Still under VDZ
5	47, M	UC, 29	Nr-Axial SpA/No	No	6	Mayo 0	CRP < 5 mg/L Exacerbation at week 12 Inflammatory back pain Sacroiliitis (MRI +) BASDAI 67/100	NSAIDs and switch to IFX
6	32, M	CD, 7	pSpA (oligoarthritis)/No	No	3	HBI NA (Active according physician assessment, Terminal ileitis)	CRP < 5 mg/L Exacerbation at week 7 «Arthralgia <sup>a</sup> »	Switch to UST
7	44, M	CD, 11	Nr-Axial SpA/Yes	No	67	HBI < 4	CRP 90 mg/L Exacerbation at week 8 Inflammatory back pain	Physiotherapy and still under VDZ
8	58, F	CD, 22	AS/No	No	7	HBI 14–16 (Terminal ileitis)	Exacerbation at week 16 “Arthralgia <sup>a</sup> ”	Switch to IFX
9	48, F	CD, 8	Nr-Axial SpA/No	No	3	HBI NA (Active according physician assessment, Pelvic abscess)	CRP 6.6 mg/L Exacerbation at week 12 “Arthralgia <sup>a</sup> ”	Switch to IFX and 6-mercaptopurine
10	35, F	CD, 7	pSpA (polyarthritis)/No	No	4	HBI 8–12	CRP 100 mg/L Exacerbation at week 2 “Arthralgia <sup>a</sup> ” Inflammatory back pain	Corticosteroids and switch to IFX
11	50, F	CD, 27	pSpA (polyarthritis)/NA	No	15	HBI < 4	CRP 12.3 mg/L No exacerbation	Switch to UST
12	36, F	CD, 16	pSpA (enthesitis)/No	No	6	HBI 8–12	No exacerbation	Switch to UST
13	61, M	UC, 3	AS/Yes	No	19	Mayo 1	No exacerbation	still under VDZ
14	30, F	CD, 4	Nr-Axial SpA/NA	No	8	HBI < 4	No exacerbation	still under VDZ

IBD: inflammatory bowel disease; CD: Crohn's disease; UC: ulcerative colitis; VDZ: Vedolizumab; SpA: spondyloarthritis; Nr-Axial: non-radiographic spondyloarthritis; pSpA: peripheral spondyloarthritis; AS: ankylosing spondylitis; IS: immunosuppressors; M: male; F: female; NA: not available; HBI: Harvey–Bradshaw index (remission if HBI < 4 and active if HBI ≥ 4); UST: ustekinumab; IFX: infliximab; CTZ: certolizumab pegol; GOL: golimumab.

<sup>a</sup> Articular manifestations without objective inflammatory signs.

gut-specific MadCAM-1. Moreover, due to the prior exposure to anti-TNF, underlying disease activity might have been suppressed in the past. Inception cohort studies are needed to better evaluate the effect of VDZ on joint manifestations.

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## Author's contribution

All authors have made substantial contributions to all of the following:

- the conception and design of the study, or acquisition of data, or analysis and interpretation of data;
- drafting the article or revising it critically for important intellectual content;
- final approval of the version to be submitted.

## Disclosure of interest

The authors declare that they have no competing interest.

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