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LETTER TO THE EDITOR

Tirzepatide in obese patients with psoriasis on biological therapy: Is this a window of opportunity?

Dear Editor,

Psoriasis is frequently associated with metabolic comorbidities including obesity, which is both a risk factor and a negative predictor of response to biologics.[1–3] Excess adiposity could exert inflammatory effects and reduce the bioavailability and effectiveness of biologic agents.[4] In contrast, weight loss improves treatment outcomes in obese patients with psoriasis.[5] Tirzepatide is a novel dual glucose-dependent insulinotropic polypeptide and glucagon-like peptide-1 (GLP-1) receptor co-agonist that has demonstrated significant efficacy in promoting weight loss in obese individuals.[6] Tirzepatide could also induce weight loss in obese patients with psoriasis, although studies are still lacking.[7] We aimed to investigate the effect of tirzepatide on body weight, on selected metabolic parameters as well as on psoriasis severity in obese patients with psoriasis.

This case series includes adult patients with moderate-to-severe plaque psoriasis ($n = 10$) consecutively attending the outpatient clinic of the University Hospital of Verona from October 2024 to May 2025. Inclusion criteria were being obese (body mass index >30); patients' intention to lose weight, but having failed previous dietary interventions; having given informed consent to tirzepatide; not having received a medical diagnosis of diabetes nor receiving antidiabetic therapy; undergoing biological treatment for at least 12 months, with a PASI greater than or equal to 5 at the time of inclusion. Tirzepatide was self-administered by subcutaneous injection at a dosage of 2.5 mg/week for the first month, followed by 5 mg/week for the subsequent 5 months. Biological therapy was maintained stable during the 6 months according to the label dose without changes in posology and/or frequency of administration. Topical therapy was not permitted. All the patients were visited every 2 months and the following data: age, gender, body weight, waist circumference, low-density lipoprotein (LDL), triglycerides (TG), glycaemia, ongoing biological therapy, PASI and Dermatology Life Quality Index (DLQI) were collected. Descriptive and clinical characteristics of the study population at baseline and month six, after therapy with tirzepatide, are reported in Table 1. At month six, PASI decreased from 6.4 ± 0.68 to 0.3 ± 0.75 kg (mean ± SD), corresponding to a 95% reduction; DLQI decreased from 6.9 ± 0.7 to 1.3 ± 0.6, that is 81% reduction. Before starting biologic therapy, the median PASI score was 18 (range 11–26). Metabolic parameters at baseline and month six are reported in Table 2. Body weight decreased from 107.2 ± 7.0 to 94.1 ± 5.9 kg (mean ± SD), a reduction of 12%; waist circumference decreased from 116 ± 7 to 104 ± 6 cm, a reduction of

TABLE 1 Clinical characteristics of the study population at baseline and 6 months after therapy with tirzepatide.

Patient number	Age	Gender	Psoriasis duration years	Biological therapy	PASI Baseline	PASI Month 6	DLQI Baseline	DLQI Month 6
1	51	F	12	Secukinumab	5.8	0	6	1
2	44	M	15	Secukinumab	6.7	2	7	2
3	47	F	13	Adalimumab	7.5	1.5	6	0
4	54	M	8	Tildrakizumab	6.8	1.2	8	2
5	67	M	20	Ustekinumab	5.9	0	7	1
6	65	M	12	Adalimumab	5.7	0	6	1
7	55	F	10	Adalimumab	5.2	0	7	2
8	37	M	4	Ustekinumab	6.5	1.5	7	2
9	51	M	19	Guselkumab	7.2	0	8	1
10	62	F	15	Adalimumab	6.3	1.1	7	1

Abbreviations: DLQI, Dermatology Life Quality Index; F, female; M, male; PASI, Psoriasis Area Severity Index.

TABLE 2 Metabolic parameters of the study population at baseline and a month six, following therapy with tirzepatide.

	Weight (kg)	Weight(kg)	Waist circumference	Waist circumference	LDL(mg/dL)	LDL(mg/dL)	TG(mg/dL)	TG(mg/dL)	Glycaemia(mg/dL)	Glycaemia(mg/dL)
Patient number	Baseline	Month 6	Baseline	Month 6	Baseline	Month 6	Baseline	Month 6	Baseline	Month 6
1	98.7	88.2	108	98	111	106	178	145	102	100
2	112.4	99.6	126	114	109	104	220	180	108	106
3	102.3	90.7	110	100	101	96	145	118	98	96
4	108.1	96.1	120	109	98	94	156	127	93	91
5	115.3	101.2	124	111	112	106	186	148	87	85
6	103.6	91.5	114	102	121	114	164	131	88	86
7	102.5	89.7	116	104	82	77	202	161	92	90
8	121.6	105.2	123	109	110	104	204	165	98	96
9	107.3	93.0	114	101	101	94	196	158	101	99
10	99.8	86.1	104	92	90	86	158	128	96	94

Abbreviations: LDL, low-density lipoprotein; TG, triglycerides.

10%; LDL decreased from 104 ± 11 to 98 ± 10 mg/dL, a reduction of 5%; TG decreased from 181 ± 23 to 146 ± 19 mg/dL, a reduction of 19%; glycaemia decreased from 96 ± 6 to 94 ± 6 mg/dL, a reduction of 2%. Therapy with tirzepatide was generally well tolerated and never withdrawn because of adverse events and/or loss of adherence. Mild nausea was reported by three patients, and a single patient experienced intermittent diarrhoea. All patients completed the six-month follow-up. The major finding of the study was that tirzepatide promoted a clinically significant weight loss and improved metabolic parameters associated with a reduction in psoriasis severity. Although it remains debated whether PASI reduction may be an indirect consequence of weight reduction, it is plausible that this may also enhance the pharmacodynamics of the biologic therapy. Furthermore, studies suggest the potential immunomodulatory mechanisms of GLP-1 receptor agonists in psoriasis. Specifically, their capacity to reduce tumour necrosis factor alpha, interleukin-17, interleukin-6 and C-reactive protein levels, inhibit nuclear factor kappa-light-chain-enhancer of activated B cells signalling and decrease epidermal thickness.[8,9] Despite the limitations of our study, including the open design and small sample size, these preliminary findings could suggest a window of opportunity for tirzepatide in obese patients with psoriasis and warrant further investigation.[10]

KEYWORDS
biological therapy, GLP-1 receptor agonists, obesity, psoriasis, tirzepatide

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DATA AVAILABILITY STATEMENT
The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICAL APPROVAL
This study was conducted in accordance with the principles of the Declaration of Helsinki and was approved by the local Ethics Committee.

ETHICS STATEMENT
Informed consent was obtained from the patients for publication of this manuscript. The patients were informed about

the purpose, procedures, potential risks and benefits of the study.

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