

Clinical Communications

Omalizumab improves perceived stress, anxiety, and depression in chronic spontaneous urticaria

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Clinical Implications

- In patients with chronic spontaneous urticaria (CSU), omalizumab improves not only quality of life but also psychological parameters such as perceived stress, anxiety, and depression. Analysis of psychological disorders should be considered in clinical treatment of CSU.

Chronic spontaneous urticaria (CSU) is a condition characterized by the development of wheals, hives, and sometimes angioedema, lasting at least 6 weeks, with no specific eliciting factors involved.^{1,2} When first- and second-line therapies are unsuccessful, European Academy of Allergy and Clinical Immunology guidelines recommend an add-on treatment with omalizumab. Many studies have shown that omalizumab improves quality of life (QoL) in patients affected by CSU.^{3,4} Depression, anxiety, and perceived stress are common psychological disorders found in patients with CSU, and these psychological disorders may in turn influence QoL.⁵ Recently, Diluvio et al⁶ showed for the first time the efficacy of omalizumab in reducing anxiety and depression in patients with CSU, even if their study did not consider perceived stress. In this study, we evaluated the impact of treatment with omalizumab on perceived stress, anxiety, and depression in patients with CSU (aged 10-78, mean age 46.14 ± 18.0 ; 32 males, 36 females) refractory to H1-antihistamine therapy, who were referred to our allergy center. Psychological disorders were assessed before starting treatment with omalizumab (T0) and after 24 weeks of therapy (T1). To evaluate perceived stress, we used Perceived Stress Scale (PSS).⁷ Baseline PSS was evaluated for 64 patients; 4 (6%) patients were placed in the low perceived stress group (PSS1), 5 (8%) were placed in the medium perceived stress group (PSS2), 5 (8%) patients were placed in the medium-high perceived stress group (PSS3), and 50 (78%) patients were placed in the high perceived stress group (PSS4). PSS mean values considerably differed from T0 to T1 ($T0 = 26.78 \pm 9.77$; $T1 = 13.89 \pm 8.84$; -12.89 [−48%]; $P < .0001$) (Table I). Among the patients belonging to PSS3 and PSS4 at baseline, 48 of 52 patients underwent PSS evaluation at T1: among those, 12 (25%) achieved a low perceived stress, whereas 13 (27%) reached a medium perceived stress (Figure 1). Hospital Anxiety and Depression Scale (HADS-A [anxiety] and HADS-D [depression]) was used to assess the Anxiety and Depression.⁸ Baseline HADS-A was registered in 64 patients; 10 (16%) patients were put in the “not compatible cases for anxiety” group (NoA), 6 (9%) patients were put in the “doubtful cases for anxiety” group (DoA), and 48 (75%) patients were put in the “definite

cases for anxiety” group (DeA). The HADS-A mean value was almost halved from T0 to T1 ($T0 = 13.44 \pm 5.64$; $T1 = 6.9 \pm 5.11$; -6.54 [−49%]; $P < .0001$) (Table I). Among the patients belonging to DeA group at baseline, 46 of 48 were evaluated at T1 and more than a half (25 of 46 [54%]) did not fit for a diagnosis of anxiety anymore (Figure 1). The Depression was rated in 64 patients; 22 (34%) were included in the “not compatible cases for depression” group (NoD), 14 (22%) patients were included in the “doubtful cases for depression” group (DoD), and 28 (44%) patients were included in the “definite cases for depression” group (DeD). We also found that the statement for the DoD and DeD groups was more frequent (77% vs 56%) in patients with a higher Weekly Urticaria Activity Score (UAS7) (35-50) than in patients with a lower UAS7 (0-34). Patients' HADS-D mean values evidenced a relevant fall from T0 to T1 (10.22 ± 6.96 ; 4.69 ± 6.56 ; -5.53 [−54%]; $P < .0001$), with a significant difference in the mean drop between male and female patients (−69% vs −44%). Among the patients belonging to the DeD group at baseline, 27 of 28 were evaluated at T1 and most of them (18 of 28 [64%]) were not suitable anymore for a diagnosis of depression (Figure 1). This study confirmed that, in real life, treatment with omalizumab improves psychological disorders in patients with CSU. Our results also confirmed the connection between CSU and these psychological disorders. Although this correlation between CSU and psychological disorders has been deeply explored, only one study other than ours examined the trend of depression and anxiety in patients treated with omalizumab.⁶ All the psychological scores we used to assess the presence and severity of psychological disorders in our patients (PSS for perceived stress, HADS-A for anxiety, and HADS-D for depression) improved after 24 weeks of treatment with omalizumab. We found that PSS, HADS-A, and HADS-D mean values were almost halved after 24 weeks of therapy with omalizumab (Table I). Males seemed to respond better to depression than females, because their HADS-D drop, between T0 and T1. Our results also demonstrate that 48% of patients suffering from medium-high and high perceived stress at baseline achieved at least a medium level of perceived stress after 24 weeks of treatment (Table I). Furthermore, almost half of the patients affected by probable or definite anxiety at T0 were not compatible for a diagnosis of anxiety anymore at T1 (Table I); in the same way, the major patients suffering from probable or definite depression at baseline did not fit for a diagnosis of depression anymore after 24 weeks of therapy (Table I). We must specify that 4 patients, classified as definite cases for anxiety, had been on pharmacological therapy for anxiety before and during treatment with omalizumab; nevertheless, only one of these patients was not a compatible case for anxiety at T1. We must also report that one of our patients, classified as a doubtful case for depression, was under treatment with an antidepressive medication, before and during treatment with omalizumab, and at T1, she was not a compatible case for depression anymore. Considering that these patients were in psychiatric therapy, our HADS-A and HADS-D scores might be slightly overrated. Finally, we must add that some studies showed that psychological counseling could itself help in amelioration of parameters of psychological disorders.⁹

TABLE I. Summary of statistics data

	T0 (mean $\pm$ SD)	T1 (mean $\pm$ SD)	Δ (%)	Target achieved, n (%)	P
CUPP	33.82 $\pm$ 10	16.14 $\pm$ 9.38	−17.67 (−63)	46/62 (74)	<.0001
DLQI	15.88 $\pm$ 9.31	4.12 $\pm$ 7.08	−11.76 (−74)	47/65 (72)	<.0001
UAS7	28.53 $\pm$ 12.02	4.83 $\pm$ 9.55	−23.7 (−83)	50/62 (81)	<.0001
PSS	26.78 $\pm$ 9.77	13.89 $\pm$ 8.84	−12.89 (−48)	25/52 (48)	<.0001
HADS-A	13.44 $\pm$ 5.64	6.9 $\pm$ 5.11	−6.54 (−49)	25/52 (48)	<.0001
HADS-D	10.22 $\pm$ 6.96	4.69 $\pm$ 6.56	−5.53 (−54)	27/40 (68)	<.0001

QoL, Quality of life; SD, standard deviation.

At the beginning of the treatment (T0) and after 24 weeks (T1), clinical disease control, QoL, and psychological disorders were stated. QoL was evaluated using the “Chronic Urticaria Patient Perspective score” (CUPP) and the “Dermatology Quality of Life Index” (DLQI). Psychological disorders were assessed with the Perceived Stress Scale (PSS), to examine perceived stress, and with the Hospital Anxiety and Depression Scale (HADS-A and HADS-D, respectively), to examine depression and anxiety. Clinical disease control was assessed using the Weekly Urticaria Activity Score (UAS7).³

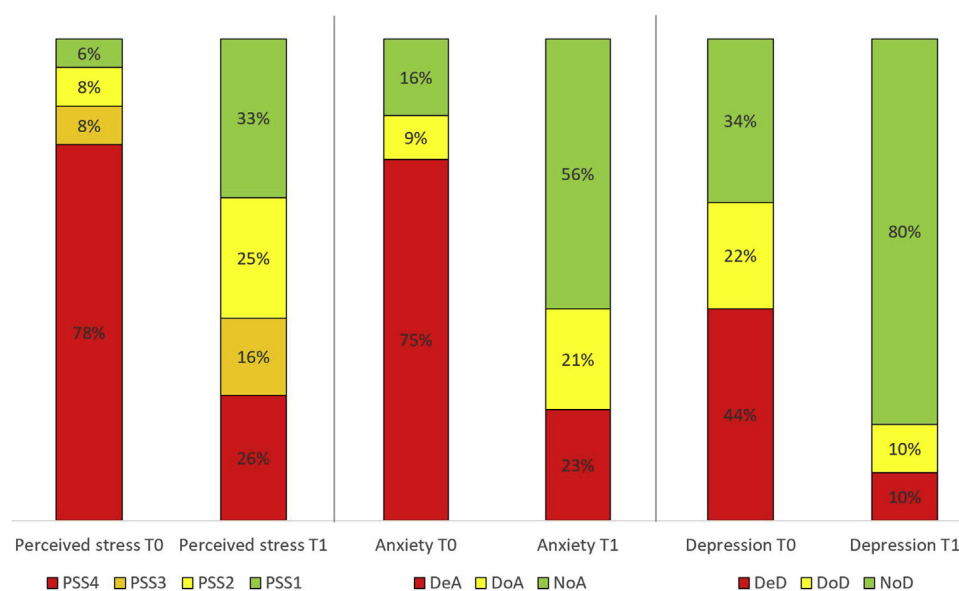


FIGURE 1. Perceived Stress Scale (PSS) mean values evidenced a relevant fall from T0 to T1; a considerable part of the patients (25 of 52 [48%]) reached, at least, a medium level of perceived stress (12 of 25 [48%]) achieved a low perceived stress at T1; 13 of 25 [52%] achieved a medium perceived stress at T1). The results of the Hospital Anxiety and Depression Scale-Anxiety (HADS-A) are also presented; the HADS-A mean value was almost halved from T0 to T1 (T0 = 13.44 $\pm$ 5.64; T1 = 6.9 $\pm$ 5.11; −6.54 [−49%]; P < .0001). A little less than a half of the patients (25 of 52 [48%]), at T1, did not fit for a diagnosis of anxiety anymore. The results of Hospital Anxiety and Depression Scale-Depression (HADS-D) means considerably differed from T0 to T1 (10.22 $\pm$ 6.96; 4.69 $\pm$ 6.56; −5.53 [−54%]; P < .0001). Most of the patients (27 of 40 [68%]), at T1, were not suitable anymore for a diagnosis of depression.

None of our patients went through a psychotherapist path, but they all underwent a psychological counseling at baseline and another one at the end of the 24 weeks of treatment. Given that, our results about psychological scores of disease may be overrated. Our results in mean reduction of HADS-A and HADS-D and in patients reaching NoA and NoD are slightly lower than results from Diluvio et al,⁶ although our findings achieve a higher statistical significance, probably due to a larger cohort of patients (Table I).

In summary, analysis of psychological disorders should be considered in the management of CSU. This study shows clearly that in real life, treatment with omalizumab improves psychological parameters such as perceived stress, anxiety, and depression. However, we found that a decrease of anxiety and depression was not significantly correlated with the UAS7 reduction. Considering that all the patients went through

psychological counseling and because psychological counseling could itself help to improve these disorders, as demonstrated in previous studies,⁹ this therapeutic option may be considered in the management of CSU.

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