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**Title of study:**

Multicenter, Randomized, Double-Blind vs. Placebo Study Comparing the Effects of a 6-Week Treatment With Desloratadine (AERIUS<sup>®</sup>) in Adults With Chronic Idiopathic Urticaria.

**Study period:**

Date of 1<sup>st</sup> visit: March 15, 2002

Date of last visit : February 19, 2003

**Clinical phase:**

IV

**Objectives:**

Main objective: to compare the efficacy of desloratadine 5mg vs. placebo in the treatment of chronic idiopathic urticaria in adults assessed by a mean reflective am/pm pruritus symptom score over 12 hours, after 2 initial weeks of treatment.

Secondary objective: to assess the clinical safety of desloratadine and the quality of life of patients with chronic idiopathic urticaria.

**Methodology:**

Multicenter, randomized, double-blind study, conducted on two treatment groups: depending on randomization, patients received either desloratadine 5 mg or placebo over a period of 42 days.

This study entailed 5 visits: a screening visit (V1), a randomization visit (V2) and 3 additional visits (V3, V4 et V5) after 7, 14 et 42 days of treatment. In the event of premature interruption, a study dropout visit was required within 2 days following the last treatment received.

**Number of patients (planned and analyzed):**

Planned: 168 patients (84 patients in each treatment group)

Patients selected: 164 patients

Patients randomized: 142 patients (Desloratadine: 65 patients; Placebo: 77 patients)

Evaluation of ITT efficacy: 137 patients (Desloratadine: 65 patients; Placebo: 72 patients)

Evaluation of PP efficacy: 108 patients (Desloratadine: 48 patients; Placebo: 60 patients)

Early discontinuation of the study: 16 patients in the Desloratadine group and 36 patients in the Placebo group

**Diagnostic and main inclusion criteria:**

Patients aged at least 18, suffering from a chronic idiopathic urticaria (CIU) for at least 6 weeks, they must be symptomatic before inclusion: pruritus score  $\geq 2$  and hive score  $\geq 1$  (selection), overall CIU condition  $\geq 2$  (selection/randomization), total pruritus score  $\geq 14$  (sum of morning plus evening scores during the 3 days prior to and the morning of randomization)

**Studied treatment, dosage and mode of administration:**

According to the randomization list, patients received either desloratadine or a placebo.

The treatment consisted in a daily administration of desloratadine (5 mg tablet) or placebo.

**Duration of treatment:**

The treatment in both groups lasted for 42 days.

**Evaluation criteria:**

Efficacy:

The main criterion of efficacy was the change in average reflective am/pm pruritus symptom score (over the preceeding last 12 hours) during the first two weeks of treatment, calculated from the daily scores entered in the patient diary and validated by the investigator.

Secondary criteria included:

- the variation of mean morning/evening instantaneous pruritus symptom scores between D1 and D4
- the variations of reflective pruritus symptom scores, of the number and maximum size of hives, of sleep quality and of interference with daily activities after respectively 1, 2 and 6 weeks of treatment
- the overall evaluation of the therapeutic response on D42
- the change from baseline in the Dermatology Life Quality Index (DLQI) on D42
- the Vq-Derm score on D42

Tolerance :

- Adverse effects
- Body weight changes during the study

**Statistical methods:****Results:**

- quantitative parameters: mean and standard deviation, median, minimum and maximum
- qualitative parameters: patient populations and percentages

**Tests used:****\* Main criterion:**

The main criterion defined by the protocol was the variation of the mean reflective am/pm pruritus symptom score over 12 hours, during the first two weeks of treatment, expressed by both delta D14-D0 and by the AUC D0-D14. The Mann-Whitney test was used to compare the two treatment groups.

**Statistical methods:****\* Secondary criteria:**

The comparisons between treatment groups were assessed by using:

- the Chi<sup>2</sup> test or direct calculation of the degree of significance according to the Fisher exact method for the qualitative variables
- the Mann-Whitney test for ordered qualitative variables
- the Student test (when distributions in the two treatment groups followed normal rules) or the Mann-Whitney test (in the opposite case), for quantitative variables

**\* Missing data:**

Concerning the analysis of parameters in the diary (*except for instantaneous pruritus values on D1, D2, D3 and D4*), missing values were replaced by using the LOCF technique (*Last Observation Carried Forward*), except if no post-baseline value available.

**Summary ~ Conclusions:****Efficacy results:**

\* All patient characteristics at inclusion were comparable between the 2 treatment groups, in particular the initial parameters of chronic idiopathic urticaria (*age of the CIU, pruritus score, score of number of hives, time since the last CIU symptomatic period, overall condition of CIU*).

\* The main objective of the study, i.e. to demonstrate a difference of about 0.5 unit of variation in the change of the mean reflective am/pm pruritus symptom score over 12 hours, during the first 2 weeks of treatment between the two treatment groups, was reached: this reduction in the pruritus score between D0 and D14 was significant regardless of the population analyzed (*ITT or PP*) (*see table below*).

<b>ITT population</b>	Desloratadine (n=65)	Placebo (n=72)
<b>Variation of reflective pruritus score between D0 and D14</b>	-1.35±0.88 (median=-1.50)	-0.78±1.03 (median=-0.75) <i>p=0.001</i>
<b>PP population</b>	Desloratadine (n=60)	Placebo (n=48)
<b>Variation of reflective pruritus score between D0 and D14</b>	-1.35±0.90 (median=-1.50)	-0.90±0.93 (median=-1.00) <i>p=0.017</i>

\* This improvement was shown on D7 (*-1.33±0.93 versus -0.84±1.05; p=0.005*) and was also confirmed on D42 (*-1.43±0.93 versus -0.86±1.14; p=0,004*) in the ITT population.

\* In addition, the analysis of changes in the symptomatology scores revealed significant differences between the Desloratadine group and the Placebo group, in both the ITT and PP populations:

- On D14, the score of the number of hives was significantly lower in the Desloratadine group ( $1.01 \pm 0.96$  vs.  $1.41 \pm 0.95$ ;  $p=0.009$ ). This difference remained significant on D42 with a value of  $1.01 \pm 0.97$  in the Desloratadine group and  $1.41 \pm 1.01$  in the Placebo group ( $p=0.016$ ).
- Similarly, starting on D1, the score of the size of the largest hive was significantly higher in the Placebo group than in the Desloratadine group ( $1.84 \pm 0.82$  vs.  $1.43 \pm 0.84$ ;  $p=0.009$ ).
- The scores of sleep disturbance and interference with daily activities were significantly improved by Desloratadine starting on D1. At that time, the sleep disturbance score was  $0.95 \pm 0.92$  in the Desloratadine group vs.  $1.36 \pm 1.16$  in the Placebo group ( $p=0.050$ ). The score of interference with daily activities was significantly lower in the Desloratadine group ( $0.80 \pm 0.81$ ) compared to the Placebo group ( $1.21 \pm 0.98$ ) ( $p=0.020$ ).

The analysis of changes in the symptomatology scores in the PP population led to the same conclusions, however there were significant differences between scores at the advanced phases of treatment: no difference in the score of the number of hives, a difference in the score of the size of the largest hive only on D14 as well as for the scores of sleep disturbance and interference with daily activities from D7.

The therapeutic response after 6 weeks of treatment in the ITT population was significantly better in the Desloratadine group ( $p<0.001$ ): 68.8% of complete, strong or moderate therapeutic responses in the Desloratadine group vs. 36.8% in the Placebo group. The trend was identical in the PP population ( $p=0.031$ ) with 72.9% of complete, strong or moderate therapeutic responses in the Desloratadine group vs. 52.3% in the Placebo group.

Finally, the quality of life was clearly improved by Desloratadine since the analysis of the two quality of life scores (*DLQI* and *Vq-Derm 28*) led to the same conclusion: the scores were significantly lower in the Desloratadine group at the end of treatment (D42). Thus, the DLQI score decreased much more significantly in the Desloratadine group between D0 and D42 ( $p<0.001$ ) than in the Placebo group (mean decrease of  $-6.0 \pm 6.2$  vs.  $-2.2 \pm 5.1$ ). In addition, the Vq-Derm score at the end of the study was significantly lower in the Desloratadine group than in the Placebo group ( $18.5 \pm 17.5$  vs.  $29.1 \pm 23.1$ ). This shows that the quality of life of patients suffering from CIU and treated with Desloratadine improved more rapidly.

#### Safety results:

The frequency of occurrence of adverse effects was comparable in both treatment groups: 20.0% of patients ( $n=13$ ) in the Desloratadine group and 26.4% of patients ( $n=19$ ) in the Placebo group ( $p=0.377$ ), with a mean number of effects per patient of 0.34 and 0.42 in both groups.

The most commonly reported adverse events were those affecting "Central and peripheral nervous system", "Skin and its appendages", "Respiratory system", "Gastrointestinal system" and "General health system".

Among all the adverse effects occurring during the 42 days of treatment of chronic idiopathic urticaria, 15 were considered to be imputable to the treatment (7 events in 4 patients in the Desloratadine group and 8 events in 8 patients in the Placebo group). Furthermore, the intensity of the adverse effects was more severe in the Placebo group: the intensity of 8 events among 30 (26.7%) was severe vs. only 3 events among 22 (13.6%) in the Desloratadine group.

Only two adverse events caused two treated patients to drop out of the study (one in each treatment group) and a single severe event was reported in the Desloratadine group. This event was unrelated to the treatment since it was a pregnancy.

Finally, desloratadine had no effect on bodyweight, the latter remaining constant during the study.

#### Conclusion:

The main objective of this study was reached: desloratadine is effective for treating the symptomatology (*pruritus and hives*) of chronic idiopathic urticaria and significantly improves both the quality of life and quality of sleep of patients. In addition to this efficacy, safety of Desloratadine is well tolerated and it was comparable to that of the placebo.

Date of report: June 2006