

SWITCH TO BENRALIZUMAB FOR SEVERE EOSINOPHILIC ASTHMA

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Background

Mepolizumab and benralizumab are monoclonal antibodies directed against anti-IL-5 and anti-IL5R, respectively, and their use reduces exacerbation rate and maintenance oral corticosteroid requirements in severe eosinophilic asthma.

We observed that a minority of patients treated with mepolizumab experienced a sub-optimal response and switched to benralizumab which provides a more complete depletion of eosinophils.

Purpose

To study effectiveness and safety of benralizumab in patients with severe refractory uncontrolled eosinophilic asthma after failure of mepolizumab. To compare patients annual asthmatic exacerbations after switching to benralizumab.

Material and methods

Observational, retrospective study of patients with severe eosinophilic asthma treated with benralizumab for at least six months with prior mepolizumab therapy in a tertiary level hospital. The study was conducted until October 2021.

Data collected: sex, age, adherence level, duration of treatment with mepolizumab, pulmonary function tests: forced expired volume in the first second (FEV₁), FEV₁/forced vital capacity ratio (FEV₁/FVC); blood eosinophil value, points for the Asthma Control Test (ACT) and number of exacerbations. The average of variation in these parameters 24 weeks before and after starting treatment with benralizumab was analyzed. Adverse events were also collected.

Statistical analysis was performed using the Student's t test.

Results

30 patients previously treated with mepolizumab after its failure or lack of asthma control, started treatment with benralizumab. 21 were women with a median age of 53 years (17-80).

The average level of adherence, according to the dispensing registry, was 90,62±6,70%.

The median duration of treatment with mepolizumab was 13 months (3-39).

FEV₁ increased by 8,26±3,90 ml (p<0,01), FEV₁/FVC ratio increased by 3,24±1,43 (p<0,01), and ACT improved by 4,84±0,25 points (p<0,001). Eosinophilia decreased from 160,43±94,7 to 24,26±20 cells/μL (p<0,001).

Annual asthmatic exacerbations were reduced from 2,19 (1-6) to 0,57 (0-3) (p<0,0001).

1 patient did not respond to benralizumab and was switched to dupilumab after 6 months.

Adverse events due to benralizumab were recorded in 3 patients, in 2 of whom treatment had to be definitively discontinued. Adverse effects were: moderate erythema nodosum, allergic reaction, hot flashes and back pain.

Conclusion

We report substantial and clinically meaningful improvements in exacerbation rate, asthma control and ACT scores.

Benralizumab may be an effective alternative for those patients with lack of asthma control with mepolizumab.