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OPTIMISING BIOLOGIC THERAPY IN SEVERE UNCONTROLLED ASTHMA PATIENTS ON OMALIZUMAB TREATMENT

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Background and importance

Severe Uncontrolled Asthma(SUA) is a chronic pathology that requires close monitoring of the effectiveness of biological drugs and an assessment of the safety and economic implications to individualize therapeutic goals.

Aim and objectives

Evaluate the effectiveness and safety of omalizumab, propose a switch to biologic treatment to optimise therapy and evaluate the economic impact after intervention.

Material and methods

Prospective study from January 2021 to April 2023.

✓ **Inclusion criteria**: All patients on treatment with Omalizumab for SUA well-controlled or those who had exacerbations in the last 12 months, Asthma Control Test(ACT) score< 20, forced expiratory volume in 1 second (FEV1)<80%, need for oral corticosteroids and the pharmacy dispensing record.

✗ **Exclusion criteria**: Patients with allergic asthma phenotype

Variables collected

- Biological treatment
- FEV1, ACT, IgE and eosinophil values before and after the treatment switch or discontinuation.
- Exacerbations or treatment with oral corticosteroids

Results

61 patients with mixed or eosinophilic phenotype SUA on treatment with omalizumab.

30 patients met criteria for well-controlled disease and 31 (50.8%) were candidates for optimisation of therapy.

55.5% women with a median age of 51 years(IQR 66 - 42).

Median pre-test IgE	459 UI/mL(734.7-239.1)
Eosinophils	300 /µL(445-140)
ACT	17(23-12)
FEV1	78%(100-65).

- 8 patients switched to benralizumab
- 7 patients switched to mepolizumab
- 6 patients switched to dupilumab
- 7 patients discontinued due to well-controlled SUA
- 2 patients were expected to switch
- 1 patient died of another cause

After optimisation the **eosinophil value** at week 16 and 32 dropped to **80 and 50** respectively.

Median **ACT 18** (20-16) and **FEV1 83.5** (98.5-59.5).

5 patients had exacerbations and 6 patients required oral corticosteroids. Two of the patients with mepolizumab returned to omalizumab.

Optimisation of therapy for SUA resulted in a **38.2% cost saving.**

Conclusions and relevance

Optimisation of pharmacotherapy allows for individualisation of treatment and dosage, which has an impact on effectiveness and safety while minimising costs in the health system.