Healthcare Resource Utilization of Severe, Uncontrolled T2LOW and Non-T2LOW Asthma in Finland during 2018-2021


INTRODUCTION AND AIM

Patients with asthma and low levels of type 2 information biomarkers (T2 low) have limited effective healthcare contacts. Biomarkers indicating T2 low include eosinophils and fractional exhaled nitric oxides (FENO). The healthcare resource utilization (HCRU) of severe, uncontrolled T2 low asthma remains unexplored. The aim of the study was to estimate HCRU of T2 low and non-T2 low patients using real-world data.

PATIENTS AND METHODS

Adult patients with asthma diagnosis during baseline (1.1.2012-31.12.2017) at the pulmonary department of Turku University Hospital, Finland, were followed until 31.12.2021. Patients were divided into T2 low and non-T2 low asthma. The cohort was formed as in Figure 1, altogether 86 patients had severe uncontrolled T2 low asthma and 103 severe uncontrolled non-T2 low asthma.

HEALTHCARE RESOURCE UTILISATION

Total all-cause HCRU costs were similar in the severe uncontrolled T2 low and non-T2 low patients, even if the average cost was slightly higher in T2 low patients. When assessing the contribution of outpatient visits, emergency room visits and hospitalization on the total HCRU related costs, outpatient visits were the main cost driver, even if the average cost was slightly higher in T2 low patients, with independent predictors being older age, male sex and comorbidity burden.

The average cumulative cost per patient was similar in patients with T2 low vs. non-T2 low, with all-cause HCRU costs of T2 low vs. non-T2 low 5 178€ [3 150, 7 205] vs. 5 209€ [4 104, 6 313]. The figure 4 shows the cumulative costs of severe uncontrolled asthma during follow-up to 37 524€ [95%CI: 27 160, 47 888] in T2 low vs. 34 712€ [25 134, 44 300] in non-T2 low patients. The proportion (67%) of drug costs were more specifically related to drugs for obstructive airway diseases. The remaining 33% of drug costs were spent on other drugs.

Table 1: Patient characteristics of T2 low and non-T2 low severe uncontrolled asthma patients at baseline

PATIENT CHARACTERISTICS

Of the severe uncontrolled asthma patients with T2 status available, 40% (n 66) of patients were identified with T2 low and 60% (n 103) with non-T2 low asthma. Table 1 describes the characteristics of severe uncontrolled asthma patients in the T2 low and non-T2 low groups.

RESULTS

Figure 5. Healthcare resource utilisation related all-cause (blue) and respiratory related (red) costs per patient-year (PPY, mean and 95% CI) during follow-up in severe uncontrolled T2 low (red) vs. non-T2 low patients (blue). Costs stratified into emergency room (ER), hospitalizations, and outpatient visits related costs.

CONCLUSIONS

Patients with uncontrolled severe T2 low asthma use as much healthcare resources as corresponding non-T2 low patients, but presently with limited treatment options. There is a significant comorbidity burden in the included severe uncontrolled patient group, evidenced by a total of healthcare costs in the range of 8 700€ to 4 900€ per patient-year, with respiratory related costs contributing 15- 16% of overall HCRU costs. The remaining 85% of all-cause HCRU cost came from severe respiratory related costs. The study revealed a high average cumulative of all-cause healthcare costs in severe uncontrolled T2 low asthma patients.

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Additional data will be uploaded after publication.