Elevated immunoglobulin E (IgE) levels are associated with emergency care and other healthcare utilization among asthma patients in a real-world data setting

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RESULTS

- 1,659 asthma patients had ≥1 eligible IgE value record; among them, 652 were continuously enrolled for ≥1 year and were included in the study.
- 286 (43.9%) patients had evidence of elevated IgE and formed the study group. The remaining patients = comparison group.
- The groups were balanced on age, but slightly misbalanced by sex: (62.9% vs. 76.8% female; p=0.001).
- Among 286 patients with elevated IgE, 25 (8.7%) used omalizumab. Among 366 patients without evidence of elevated IgE, 13 (3.6%) used it.
- Patients in the study group more likely to have used chronic OCS, LABA, and omalizumab than those in the comparison group; and to have received a higher total annual prednisone-equivalent dose (Table 1).
- High-dose ICS usage did not differ between the groups (Table 1).
- In unadjusted analyses:
  - Patients in the study group had fewer overall office visits than patients in the comparison group (19,200 vs. 22,977 PTPY; p=0.012).
  - Groups did not statistically significantly different exacerbation rates (1,393 vs low-IgE 987 exacerbations PTPY; p=0.14).
  - Patients in the study group had more asthma-related office visits (2,197 vs. 1,575 PTPY; p=0.008) and ED visits (62 vs. 5 PTPY; p=0.002) than those in the comparison group.

METHODS

- This cross-sectional analysis used Humedica SmartFile®, a database containing electronic medical records (EMR) linked with administrative claims.
- We identified ≥ 18 years old asthma patients with ≥ 1 asthma diagnosis claims, ≥ 2 asthma medications, and ≥ 1 IgE level recorded, enrolled for ≥ 1 year during 01/01/2007 – 08/31/2013.
- The first eligible IgE measurement was the index date.
- Patients who were followed from the index date for at least 1 year and up to the end of available data.
- IgE was classified as:
  - Study group: Evidence of elevated IgE
  - Comparison group: No-evidence of elevated or unknown IgE status with IgE >75 IU/ml never in follow-up period.
- Outcomes of interest included asthma exacerbations and asthma-related healthcare use (medications, office and ED visits, hospitalizations).
- Asthma exacerbations were defined by any asthma exacerbation in patients with asthma, it appears to be associated with increases in some categories of asthma-specific utilization.
- In unadjusted analyses, patients with evidence of elevated IgE had statistically significantly more exacerbations, asthma-related office visits, and asthma-related ED visits than patients without elevated IgE.

LIMITATIONS

- These data were derived from a subset of insurance claims linked with EMR data and may not be representative of patients without commercial insurance, or of insured patients without EMR data.
- Because IgE data came from EMR, it is subject to testing bias. The fact that no elevated IgE has been recorded in the database does not mean that patients in the comparison group, in fact, did not have it. It is not possible to know how many patients in the comparison group in fact did have it.
- Omalizumab is known to reduce IgE, and it was used by 25 patients who had evidence of elevated IgE and by 13 patients in the comparison group. Therefore, the allocation to the comparison group could have been affected by omalizumab use.
- As with all claims studies, miscoding may affect accuracy.

This study presents the first known analysis of IgE data in real-world settings reported in EMR. More research (supported by Care accurate testing) is needed to confirm findings of this study.

CONCLUSIONS

- Although evidence of elevated IgE does not appear to be associated with increased overall healthcare utilization in patients with asthma, it appears to be associated with increases in some categories of asthma-specific utilization.

REFERENCES


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