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**Rationale:** To assess medication treatment patterns in patients with chronic idiopathic urticaria (CIU).

**Methods:** We conducted a descriptive, cross-sectional analysis using a HIPAA-compliant claims database. The study identified patients continuously enrolled 07/01/2007-6/30/2008. CIU has no specific ICD-9 code. We included patients with 1 outpatient claim for idiopathic, other, or unspecified urticaria (ICD-9 708.1, 708.8, 708.9) and either 1) another of these claims ≥6 weeks later, 2) a claim for angioedema (ICD-9 995.1), or 3) claims for 2 prescription medications commonly used for CIU.

**Results:** We identified 6,019 potential CIU patients. The mean age was 36 ± 20 years, and 67% (n=4,013) were female. Fifty-six percent of patients had primary care physicians (PCP) as their usual source of care, 14% allergists, 5% dermatologists, and the remainder other/unspecified. Allergic rhinitis was diagnosed in 48%, asthma in 21%, other allergy in 19%, and atopic dermatitis in 8%. Sixty-seven percent of patients used antihistamines, 54% oral corticosteroids (OCS), 24% montelukast and 9% doxepin. Seven of the top 10 treatment regimens included OCS. Antihistamine users received a mean of 152 days of antihistamines, OCS users 30 days of OCS, montelukast users 190 days of montelukast and doxepin users 94 days of doxepin.

**Conclusions:** PCPs manage the majority of patients with CIU. Although antihistamines are the most common treatment for CIU, OCS are frequently prescribed. Thirty days of OCS supply among users may represent multiple steroid bursts each year. Given steroids' known risks, identifying other CIU treatments with more favorable safety profiles may be beneficial

## Introduction

- Chronic idiopathic urticaria (CIU) diagnosis requires wheals and pruritus for ≥6 weeks with no obvious cause.
- May present with symptoms from localized urticaria to life-threatening angioedema
- Epidemiology, treatment patterns, and burden not well described.

## Objectives

- To characterize an insured population with CIU
- To estimate the frequency of various treatments
- To calculate the cost of care

## Methods

### Data source and patients

- Descriptive, cross-sectional analysis
- HIPAA-compliant administrative claims database
- Claims and enrollment data on 10 million individuals in the US

### Inclusion criteria

- Continuous enrollment from 07/01/2007 through 6/30/2008
- One code 708.1 (idiopathic urticaria), 708.8 (other specified urticaria), or 708.9 (unspecified urticaria) plus either
  - angioedema ≥6 weeks from the urticaria diagnosis, or
  - a second code ≥6 weeks later, or
  - a ≥90-day overlapping supply of antihistamine and a second prescription CIU treatment

### Variables

- Patient demographics (race/ethnicity not available in database)
- Usual care specialty and “usual urticaria care” specialty, defined using a validated method
- Prescription medications used to treat CIU (no OTC medications in database)
- CIU-related charges including:
  - Outpatient claims with any diagnosis of urticaria
  - Pharmacy costs for any prescription medications used to treat CIU
  - Inpatient claims with primary diagnosis of urticaria

## Results

- 7.5 million patients met continuous enrollment criteria
- 6,019 met inclusion criteria
- Estimated prevalence 0.080% (1 per 1,255)

### Patient Characteristics

| Characteristics                       | N = 6,019    |
|---------------------------------------|--------------|
| Age, mean (SD), y                     | 36.0 (19.6)  |
| Female, no. (%)                       | 4,013 (66.7) |
| Charlson comorbidity index, mean (SD) | 0.7 (1.2)    |
| median                                | 0            |
| No. of chronic conditions, mean (SD)  | 2.7 (2.0)    |
| median                                | 2            |
| Comorbid conditions, no. (%)          |              |
| Allergic rhinitis                     | 2,882 (47.9) |
| Asthma                                | 1,274 (21.2) |
| Allergy                               | 1,115 (18.5) |
| Anxiety                               | 565 (9.4)    |
| Depression                            | 565 (9.4)    |
| Atopic dermatitis                     | 468 (7.8)    |
| Vasculitis and allergic purpura       | 20 (0.3)     |

- Usual care physician was a primary care provider in 56% of cases, allergist in 14%, and dermatologist in 5%. Remainder were other/unspecified in the data.

### Prescription Urticaria Treatments

| Treatment      | Any use         | No. of days supply among users |
|----------------|-----------------|--------------------------------|
|                | No. (%)         | Mean (SD)                      |
|                | <b>N= 6,019</b> |                                |
| Antihistamines | 4,009 (66.6)    | 152.2 (128.1)                  |
| Nonsedating    | 3,851 (64.0)    |                                |
| Other          | 477 (7.9)       |                                |
| OCS            | 3,235 (53.7)    | 29.7 (52.2)                    |
| Montelukast    | 1,451 (24.1)    | 190.1 (128.3)                  |
| Doxepin        | 541 (9.0)       | 93.5 (102.7)                   |
| H2 blockers    | 406 (6.7)       | 89.1 (97.9)                    |

- Nonsedating antihistamines were the most common medication, used by 67% of patients
- 54% of patients filled prescriptions for OCS
- Users of OCS had a mean supply of 30 days

### Health Service Use and Cost of Care

| Variable                                                                      | Overall          | Urticaria Related |
|-------------------------------------------------------------------------------|------------------|-------------------|
|                                                                               | Mean (SD)        | Mean (SD)         |
|                                                                               | <b>N = 6,019</b> |                   |
| ED visits/hospitalizations                                                    | 0.9 (3.9)        | 0.03 (0.47)       |
| Office visits                                                                 | 14.5 (12.6)      | 3.09 (2.81)       |
|                                                                               | Media            | 2                 |
|                                                                               | n                |                   |
| Total charge (\$)                                                             | 15,848 (30,607)  | 1,762 (2,353)     |
|                                                                               | Media            | 1,298             |
|                                                                               | n                |                   |
| Medical charge (\$)                                                           | 13,426 (29,290)  | 1,252 (2,257)     |
|                                                                               | Media            | 700               |
|                                                                               | n                |                   |
| Pharmacy charge (\$)                                                          | 2,422 (3,844)    | 510 (681)         |
| • Median 11 office visits per year                                            | Media            | 243               |
| • Mean annual charge \$15,848 overall and \$1,762 urticaria related           | n                |                   |
| • Medical claims (e.g., excluding Rx drugs) accounted for majority of charges |                  |                   |

## Conclusions

- This large population-based study of commercially insured individuals confirms prior estimates of CIU prevalence.
- Many CIU patients are managed by PCPs.
- Antihistamines are the most common pharmacologic treatment, but OCS use is quite common.
- Although patients with CIU are relatively young and otherwise healthy, their healthcare charges are substantial, with about \$1,700 per year related directly to care and treatment for urticaria.

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