ORIGINAL ARTICLE

Real-world burden of comorbidities in US patients with psoriasis

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Background: Understanding background comorbidity rates in psoriasis can provide perspective for adverse events associated with new therapies.

Objective: We sought to assess the extent of comorbidities in psoriasis patients by use of the Truven Health Analytics MarketScan database.

Methods: MarketScan, comprising commercial claims representative of a large US-insured population, had 1.22 million patients with ≥1 claim with a psoriasis diagnosis between January 1, 2008, and December 31, 2014. Patients ≥18 years of age who had ≥2 health claims in any diagnosis field for psoriasis (International Classification of Diseases, 9th Revision, Clinical Modification 696.1) with a psoriasis diagnosis (index) date between July 1, 2008, and June 30, 2014, were included to allow follow-up observation time.

Results: Prevalence and incidence of 24 comorbidities were assessed in 469,097 psoriasis patients; the most common comorbidities were hyperlipidemia (45.64% and 30.83%, respectively), hypertension (42.19% and 24.19%), depression (17.91% and 12.68%), type 2 diabetes mellitus (17.45% and 8.44%), and obesity (14.38% and 11.57%).

Limitations: A limitation of the study was that only a certain insured population was represented.

Conclusions: Comorbidity rates align with those described in the literature and support the concept that psoriasis patients have high rates of cardiometabolic comorbidities. This analysis highlights the potential utility of very large insurance databases for determining comorbidity prevalence in psoriasis, which may aid health care providers in managing psoriasis. (J Am Acad Dermatol http://dx.doi.org/10.1016/j.jaad.2017.03.037.)

Key words: comorbidity; database; disease burden; MarketScan; medical insurance claims; psoriasis.

Psoriasis is a common inflammatory skin disease associated with multiple comorbidities that may affect treatment decision-making, including arthritis, depression, obesity, metabolic syndrome, cardiovascular disease, cerebrovascular disease, and peripheral vascular disease, among others.[1-3] The rates of these comorbidities in patients with psoriasis have not been fully characterized.

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Conflicts of interest: Dr Shah was an employee of Celgene Corporation at the time of study conduct and has access to stocks, stock options, and restricted stock units in Celgene Corporation. Ms Mellars and Dr Changolkar were contractors employed by Celgene Corporation at the time the study was conducted. Dr Feldman has served as a consultant to AbbVie, Amgen, Baxter, Celgene Corporation, Cosmederm, Eli Lilly, Galderma, GSK, Hanall Pharmaceutical, Kikaku, LEO Pharma, Merck, Merz Pharmaceuticals, Mylan, Novartis, Pfizer, Qurient, Stiefel/GSK, Suncare Research, and Xenoport; has served as a speaker for AbbVie, Celgene Corporation, Janssen, LEO Pharma, Mylan, Novartis, Stiefel/GSK, and Taro; received grant support from AbbVie, Amgen, Anacor, Celgene Corporation, Galderma, Janssen, Novartis, Pfizer, Qurient, and Stiefel/GSK; and served on advisory boards for Boehringer Ingelheim, Pfizer, and Xenoport.

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Randomized psoriasis studies have provided limited information on comorbid conditions because trials often have many exclusion criteria that preclude enrollment of patients with significant comorbidities.[4] Randomized populations do not generally represent the spectrum of patients and comorbidities in the real-world population,[4] and post-marketing surveillance data often consist of spontaneously reported adverse events that are plagued by underreporting bias.[5-7] Patient registries address some of these issues, providing more robust information, but some have limited sample sizes and study durations or may be affected by heterogeneity. In addition, many registries were conducted in specific countries and therefore may not be reflective of the US or global population.[8,9]

CAPSULE SUMMARY

- Psoriasis is associated with comorbidities that can affect treatment decisions.
- The MarketScan US insurance claims database revealed that patients with psoriasis have high rates of metabolic syndrome and depression.
- The use of very large insurance claims databases for determination of comorbidity prevalence may aid health care professionals in providing more comprehensive management of psoriasis.

Medical insurance claims databases can be utilized to study large populations of patients and provide an effective means to assess comorbidity rates in real-world patients. This study used a large claims database to gain an understanding of the rate of comorbidities in a broad population-based cohort of adult patients with psoriasis.

METHODS

Data source

We used the Truven Health Analytics MarketScan database (Truven Health Analytics, Ann Arbor, Michigan) to review all claims from patients enrolled between January 1, 2008, and December 31, 2014, including early view claims through July 31, 2015. The MarketScan database contains administrative claims in the United States for commercially insured working-age adults and their dependents as well as individuals with Medicare supplemental insurance paid for by employers. The database encompasses full continuum of care across settings and longitudinal tracking at the patient level. More than half the individuals are tracked for at least 3 years.

Employer-provided data allow for tracking across health plans and, overall, contain administrative claims and eligibility records for approximately 230 million patient-lives since 1995.[10] Enrollment records contain demographic information, including age, sex, and geographic region. Medical claims files include inpatient, outpatient, facility, and service claims records. The database is compliant with the Health Insurance Portability and Accountability Act and contains synthetic identifiers to protect the privacy of individual patients and data contributors.

Study population

Adult patients (≥18 years of age) who were diagnosed with psoriasis (≥2 claims associated with the International Classification of Diseases, 9th Revision, Clinical Modification [ICD-9-CM] code 696.1, the most commonly used diagnosis code for psoriasis)[11] with the first diagnosis claim between July 1, 2008, and June 30, 2014, were selected from the database. The first diagnosis claim was set as the index date. Patients meeting inclusion criteria are referred to as the psoriasis population. In addition, patients with psoriasis who met a minimum continuous health plan enrollment from 6 months before through 6 months after the index date were selected and are referred to as the continuously enrolled population. Patients were studied until loss of insurance eligibility or the end of the study period.

Study outcomes

The outcomes chosen for this analysis reflect a broad spectrum of comorbid conditions. The ICD-9-CM codes chosen for the outcomes were based on medical judgment or had been used in the literature previously. The ICD-9-CM codes for psoriasis,[11] acute myocardial infarction (MI),[12] stroke,[13] and depression[14] have been validated, and the ICD-9-CM codes for infections had been used previously.[15] Acute MI was determined by use of the primary diagnosis code for inpatient diagnoses. Stroke and infections were determined on the basis of any inpatient diagnosis. Other outcomes were determined on the basis of at least 1 diagnosis in any claim; the complete list of codes and diagnosis claims considered are listed in Supplemental Table I (available at http://www.jaad.org).[12-17]

Statistical analysis

Continuous variables for comorbidities were summarized by use of means and standard deviations, and the discrete data were summarized by use of counts and percentages. Estimates for both prevalence (percent) and incidence (percent and