



Atopic Dermatitis and Psoriasis are Diagnosed Clinically and Treated Empirically

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INTRODUCTION

Atopic dermatitis and psoriasis commonly have manifestations such as lesion morphology and location that allow for diagnoses to be based on clinical criteria [1–4]. However, sometimes there is uncertainty in the diagnosis, and clinicians can either perform a biopsy or treat empirically. The objective of this analysis is to assess whether the dogma that psoriasis and atopic dermatitis are usually diagnosed clinically is true, by determining how often atopic dermatitis and psoriasis are biopsied because of uncertainty in the clinical diagnosis.

METHODS

Data from all providers in the National Ambulatory Medical Care Survey [5] (NAMCS) from 1993 to 2016 were analyzed in SAS [6] software

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9.4 (SAS Institute Inc, Cary, NC). NAMCS is conducted annually by the Center for Disease Control and Prevention to provide information about the use of outpatient medical care in the USA. Physicians from various medical specialties complete the survey, and a random sample of the physicians' patient visits are included [7]. Visits were stratified by those with a diagnosis of atopic dermatitis or psoriasis. Two separate analyses for each diagnosis were performed—one that included both new patient visits and follow-up visits and one with only new patient visits. This article is based on previously conducted studies/publicly available data and does not contain any new studies with human participants or animals performed by any of the authors.

RESULTS

From 1993 to 2016, 1463 survey visits with atopic dermatitis as a diagnosis were documented in NAMCS, representing 38 million (95% confidence interval, 35–40 million) such encounters in the USA (Table 1). Four hundred ninety-four survey visits [representing 13 million (11–14 million)] had atopic dermatitis as the only diagnosis. Of these 494 visits, one (representing 24,000) had a biopsy (performed by a dermatologist). In addition, one survey visit (representing 17,000) had a diagnosis of atopic dermatitis that was “probable,

Table 1 Atopic dermatitis (AD) and psoriasis visits in the national ambulatory medical care survey (NAMCS) from 1993 to 2016

	Visits in NAMCS (survey)	Total visits represented by survey visits (95% confidence interval)
Atopic dermatitis (AD) diagnosis	1463	38 million (35–40 million)
AD diagnosis with no other diagnoses	494	13 million [11–14 million]
AD diagnosis with no other diagnoses and with a biopsy performed	1	24,000
AD diagnosis that was “probable, questionable, or rule out” and with no other diagnoses	1	17,000
AD diagnosis that was “probable, questionable, or rule out” and with no other diagnoses and a biopsy performed	0	–
New patient with AD diagnosis with no other diagnoses	121	2.6 million [1.9–3.3 million]
New patient with AD diagnosis with no other diagnoses and with biopsy performed	1	24,000
New patient with AD diagnosis that was “probable, questionable, or rule out”	0	–
Psoriasis diagnosis	1923	47 million (45–49 million)
Psoriasis diagnosis with no other diagnoses	938	20 million (19–21 million)
Psoriasis diagnosis with no other diagnoses and with biopsy performed	10	195,000 [0, 0–271]
Psoriasis diagnosis that was “probable, questionable, or rule out” and with no other diagnoses	9	195,000 [0, 0–322]
Psoriasis diagnosis that was “probable, questionable, or rule out” and with no other diagnoses and a biopsy performed	0	–
New patient with psoriasis diagnosis with no other diagnoses	164	3.2 million (2.8–3.6 million)
New patient with psoriasis diagnosis with no other diagnoses and with biopsy performed	1	5000
New patient with psoriasis diagnosis that was “probable, questionable, or rule out”	0	–

questionable, or rule out”; however, no biopsy was performed in this visit. Stratifying visits to only those with new patients resulted in 121 survey visits [representing 2.6 million (1.9–3.3 million)] with atopic dermatitis as the only diagnosis. Of these, one survey visit had a biopsy (performed by a dermatologist). None of

the 121 visits had a diagnosis of atopic dermatitis that was “probable, questionable, or rule out.”

Similarly, from 1993 to 2016, 1923 survey visits [representing 47 million (45–49 million)] with psoriasis as a diagnosis were documented in NAMCS (Table 1). Nine hundred thirty-eight

survey visits [representing 20 million (19–21 million)] had psoriasis as the only diagnosis. Of these 938 visits, 10 [representing 195,000 (118,000–271,000)] had a biopsy (all performed by dermatologists). In addition, of the 938 visits, nine [representing 195,000 (68,000–322,000)] had a diagnosis of psoriasis that was “probable, questionable, or rule out”; however, no biopsy was performed in any of these visits. Stratifying visits to only those with new patients resulted in 164 survey visits [representing 3.2 million (2.8–3.6 million)] with psoriasis as the only diagnosis. Of these, one survey visit had a biopsy (performed by a dermatologist). None of the 164 visits had a diagnosis of psoriasis that was “probable, questionable, or rule out.”

DISCUSSION

NAMCS consists of cross-sectional survey data and is dependent on physicians for accurate coding of diagnoses and procedures. Also, the data does not specify whether the visit was for a diagnostic purpose. It is also possible that a patient required a biopsy at some point in the evolution of the disease. This biopsy would not be captured in data from the initial visit. Despite these limitations, NAMCS provides reliable nationally representative data on ambulatory medical care services in the USA. Overall, in NAMCS, for all visits with atopic dermatitis as the only diagnosis, a biopsy was performed in 0.2% (1/494) of the visits and for new patient visits with atopic dermatitis as the only diagnosis, a biopsy was performed in 0.8% (1/121) of visits. For all visits with psoriasis as the only diagnosis, a biopsy was performed in 1% (10/938) of the visits and for new patient visits with psoriasis as the only diagnosis, a biopsy was performed in 0.6% (1/164) of visits. Further, a biopsy was not performed in any of the survey visits for atopic dermatitis or psoriasis in which the diagnosis was “probable, questionable, or rule out” (i.e., the diagnosis was not definitive). These data confirm the dogma that a biopsy is usually not needed to make the diagnosis of psoriasis or atopic dermatitis. The clinical manifestations of these

diseases are usually sufficient for diagnosis, though there may be occasions when the clinical appearance is ambiguous.

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Compliance with Ethics Guidelines. This article is based on previously conducted studies/publicly available data and does not contain any new studies with human participants or animals performed by any of the authors.

Data Availability. The datasets generated during and/or analyzed during the current

study are available in the Centers for Disease Control and Prevention and National Center for Health Statistics. NAMCS- Ambulatory Health Care Data. Ambulatory Health Care Data repository, <https://www.cdc.gov/nchs/ahcd/index.htm>

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