

Reasons for Treatment Changes in Patients With Moderate to Severe Psoriasis

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Abstract

Background: Psoriasis treatment involves multiple treatment arms. Treatment choice depends on many factors and may change, due to the chronicity of psoriasis.

Objective: The purpose of our study is to explore reasons for treatment changes in patients with moderate to severe psoriasis.

Methods: Ten charts of patients with moderate to severe psoriasis were reviewed. The medication changes and reasons for change were extracted. A “treatment change” was defined as switching between medication classes, adding or removing a medication class, or switching medications within the oral or biologic medication class.

Results: Seventy-seven treatment changes were identified. On average, 1 treatment change occurred per year of follow-up. The most common reason for treatment change was inadequate disease control.

Conclusions: Inadequate disease control with current therapy is the most common reason a physician changes treatment for moderate to severe psoriasis. More efficacious treatments or ways to improve efficacy may help improve the long-term outcomes of psoriasis.

Résumé

Contexte : Il existe de multiples options de traitement du psoriasis. Comme la maladie est chronique, le choix du traitement dépend de nombreux facteurs et peut devoir changer.

Objectif : Notre étude vise à examiner les raisons pour lesquelles les médecins modifient en cours de route le traitement de patients atteints d'une forme modérée ou grave de psoriasis.

Méthodologie : Nous avons passé en revue les dossiers de 10 patients atteints d'une forme modérée ou grave de psoriasis en notant les changements apportés à la médication et leurs motifs. Nous avons défini le « changement de traitement » comme étant le recours à une autre classe de médicaments, l'ajout ou le retrait d'une classe de médicaments ou le recours à un autre médicament d'une même classe d'agents oraux ou d'agents biologiques.

Résultats : On a relevé 77 changements de traitement. En moyenne, 1 changement est survenu par année de suivi. Le motif le plus fréquemment invoqué pour le changement de traitement était une maîtrise inadéquate de la maladie.

Conclusions : Parmi les raisons invoquées par les médecins pour modifier le traitement d'une forme modérée ou grave de psoriasis, la maîtrise inadéquate de la maladie est la plus fréquente. La découverte de traitements plus efficaces ou de façons d'accroître l'efficacité des traitements pourrait aider à améliorer les résultats à long terme pour les patients atteints de psoriasis.

Keywords

psoriasis, phototherapy, dermatology

Introduction

Psoriasis frequently begins in young adults and may require decades of treatment, with potential for multiple changes in treatment over time.¹ Potential treatment options include topical medications, oral medications, phototherapy, and biologics. The decision of which class of treatment to use depends on a myriad of factors, including severity of disease, location of disease, comorbid conditions, cost, convenience, and patient preference.² Patients frequently switch between

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different treatments, and there are limited data on why treatment changes occur.³⁻⁵

The reasons for treatment changes throughout the course of a patient's disease have been elucidated in many other chronic diseases. Reasons for treatment changes in HIV, hypertension, and Parkinson's disease include medication safety, failure to reach treatment goals, intolerance, and attempts to improve adherence.⁶⁻⁹ There have been studies on the reasons for stopping specific medications or classes of medications in psoriasis, but treatment courses for individual patients have not been well characterized. The most common reason for stopping traditional systemic medications (eg, methotrexate, cyclosporine, and acitretin) is adverse effects, and the most common reason for stopping biologic medications is loss of efficacy.¹⁰⁻¹³ The most common reason for switching between biologic medications is treatment failure, followed by lack of efficacy.¹⁴ Discontinuation due to general lack of efficacy, distinguished from loss of efficacy, is similar for traditional systemic medications and biologics.¹⁰ Patients' perceptions are similar, with inadequate disease control and side effects being the most common self-reported reasons for stopping medications.¹⁵

The purpose of our study is to explore the reasons for treatment changes over the course of treatment in 10 patients with moderate to severe psoriasis. Secondary findings include the number of treatment changes per visit, number of treatments used, and the medication classes involved in each treatment change.

Methods

Following approval from the Wake Forest School of Medicine Institutional Review Board, Wake Forest Baptist Medical Center (WFBMC) Department of Dermatology outpatient clinic records were searched for patients at least 18 years of age who visited the clinic within the past 12 months for psoriasis (ICD: 696.1). From a randomized list, their charts were reviewed for the remaining inclusion criteria: (1) psoriasis characterized as moderate to severe, (2) followed for the treatment of psoriasis for at least 3 years at Wake Forest Baptist Health Department of Dermatology, and (3) had a minimum of 3 treatment changes throughout their treatment course. "Moderate to severe" was defined by the clinician mentioning "moderate" or "severe" in the description of the disease or the patient having a history of using a biologic medication. A "treatment change" was defined by (1) switching between medication classes, (2) adding or removing a medication class, (3) switching medications within the oral medication class, (4) switching medications within the biologic medication class, (5) or beginning treatment. Switching between topical medications was not included as a treatment change. Phototherapy was considered a "medication." One hundred twenty charts were reviewed to find 10 that met the inclusion criteria.

Demographic data were extracted, including the patient's age, gender, ethnicity, duration of psoriasis diagnosis, and duration of time treated for psoriasis at Wake Forest Baptist Health Department of Dermatology. For encounters that involved a treatment change, the visit date, change recommended, and reason noted by physician for the change was recorded. The reasons for treatment changes were categorized and tabulated. Secondary findings tabulated were the number of treatment changes per visit, average number of treatment changes per year of follow-up, number of treatments each patient was exposed to, and the frequency of medication classes involved in treatment changes.

Results

The average age of the sample population was 54, and there were 4 males and 6 females. The duration of psoriasis was not noted for the majority of the patients because they presented to the clinic already with the diagnosis of psoriasis, and the time of their diagnosis was not documented in the chart. The majority of the patients had plaque-type psoriasis, but intertriginous, palmar-plantar, and guttate were also included (Table 1).

The number of treatments used varied between individuals, ranging from 4 to 20. All patients had used at least 1 topical, oral, and biologic medication, and 4 patients used phototherapy (Table 2). Each patient was exposed to an average of 10 medications over their course of treatment and an average of 3 medications with the exclusion of topical treatments. Among the 10 patients, there were 77 treatment changes, with an average of 0.30 medication changes per visit (Figure 1). There was an average of 1 treatment change per year of follow-up. There was no correlation between the number of visits and the number of treatment changes (Spearman's rank correlation coefficient, 0.53, $P = .12$). There is a positive correlation between the number of visits and the number of treatments, including topical medications (Spearman's rank correlation coefficient, 0.70, $P = .03$).

The most common reason dermatologists changed a patient's treatment was inadequate control of their disease (61%). The other indications included side effects, insurance issues preventing the patient's ability to obtain their prior medication, patient preference, new to treatment, and maximum cumulative medication dose was reached (Table 3). Ineffective treatment was cited as the reason for many types of treatment changes, including augmenting topical therapy with either an oral or biologic medication, adding phototherapy, switching from an oral medication to a biologic, switching from a biologic to an oral medication, augmenting an oral medication with either an additional oral therapy or a biologic, augmenting biologic medication with oral medication, and switching between biologics. Side effects were responsible for stopping phototherapy, oral, and biologic treatments. UVB phototherapy was stopped due to burning. Methotrexate was stopped due to fatigue and weakness,

Table 1. Patient Demographics, Duration of Psoriasis, and TYPE of Psoriasis.

Patient	Age	Gender	Ethnicity	Duration of Psoriasis	Duration of Treatment at WFBMC Dermatology Clinic (y)	Type of Psoriasis
1	57	Male	Caucasian	Diagnosed Feb 19, 2010	3.67	Intertriginous
2	65	Female	African American	Initial consult states "all her life"	7.33	Plaque
3	46	Female	Caucasian	Diagnosed approximately 1980	3.67	Plaque
4	58	Male	Caucasian	Unknown	7.25	Plaque
5	60	Female	Caucasian	Unknown	4.6	Plaque
6	57	Male	African American	Unknown	17.17	Plaque
7	62	Female	Caucasian	Unknown	11.58	Palmar plantar
8	48	Male	Unknown	Unknown	15.83	Plaque
9	56	Female	Caucasian	Diagnosed Feb 24, 2011	2.42	Palmar plantar
10	36	Female	Caucasian	Unknown	5.67	Guttate and plaque

Abbreviation: WFBMC, Wake Forest Baptist Medical Center.

Table 2. Number of Visits, Treatments, and Treatment Changes per Patient.

Patient	Number of Visits	No. of Different Treatments Used	No. of Topical Medications Used	No. of Oral Medications Used	No. of Biologic Medications Used	Was Phototherapy Used? Type?	No. of Medication Changes ^a
1	38	11	8	1	2	No	6
2	23	9	6	1	1	Yes; tanning beds	6
3	15	11	6	1	3	Yes; tanning beds	6
4	7	4	1	2	1	No	4
5	17	4	3	1	1	No	3
6	72	20	12	3	3	Yes; PUVA and UVB	18
7	40	15	7	3	4	Yes; tanning beds	14
8	17	11	9	1	1	No	8
9	16	7	5	1	1	No	4
10	10	9	7	1	1	No	8

^aMedication change was defined as (1) switching between medication classes, (2) adding/removing a medication class, (3) switching medications within oral medications, or (4) switching medications within biologics. PUVA, psoralen and ultraviolet A; UVB, ultraviolet.

Table 3. Dermatologists' Reasons for Changing Treatments in Patients With Moderate to Severe Psoriasis.

Reason for Treatment Change	Percentage of Medication Changes (N = 77)
Disease not adequately controlled	61 (n = 47)
Side effects from medication	10 (n = 8)
Insurance issues preventing use of prior medication	10 (n = 8)
Patient preference	9 (n = 7)
New diagnosis/new to treatment	6 (n = 5)
Maximum medication dose	3 (n = 2)

elevated transaminases, and gastrointestinal symptoms. Adalimumab was stopped in 1 patient due to increased infections, and etanercept was stopped in another patient due to a

drop in white blood cell count. Insurance issues covering medications was most commonly cited with stopping biologic medications. It was also responsible for a patient being unable to maintain treatment on acitretin. Patient preferences were responsible for 7 of the treatment changes. Preferences affecting treatment included not wanting to do continual lab work, requesting a previously successful treatment, trying to become pregnant, and requesting to stop treatment because the patient felt it was not beneficial enough to continue. Of the 5 treatment changes that occurred for patients new to treatment, 2 of the patients had a new psoriasis diagnosis, and 3 had been previously diagnosed but had not been on treatment at the time they presented to the WFBMC Department of Dermatology. Of these patients, 2 were placed on topical medications, 1 on PUVA, 1 on methotrexate, and 1 on etanercept. The patient started on etanercept had a history of being treated for psoriasis elsewhere and etanercept

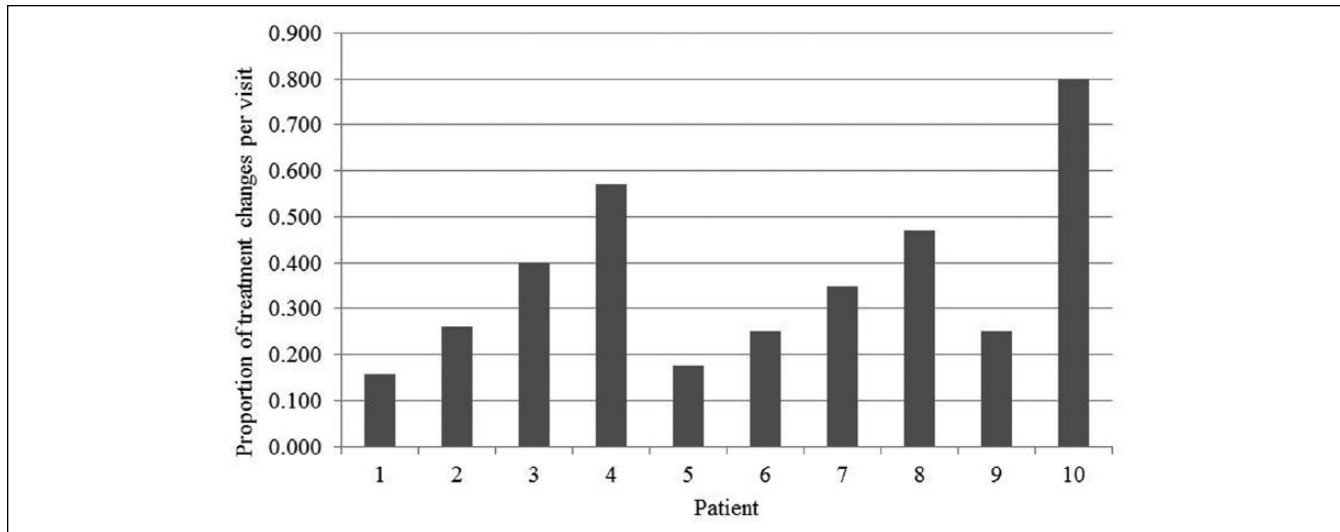


Figure 1. The proportion of treatment changes per visit for each patient.

Table 4. Number of Treatment Changes That Involved Stopping a Class of Medication, Adding a Class of Medication, or Switching Within the Same Class of Medication.^a

	Biologic Medications	Oral Medications	Phototherapy	Topical Medications ^b
Stopped	14 (11)	17 (13)	8 (6)	—
Switched within class	5 (4)	3 (2)	0 (0)	—
Added	36 (28)	27 (21)	6 (5)	5 (4)

^aThe data are presented as % (n). The total is in excess of 100% (77) because treatment changes could involve multiple modifications.

^bFor topical medications, only adding topical medication to a patient who was previously on no treatment was considered a treatment change. Switching within topical medications or stopping topical medications was not well documented in the chart review and therefore was not included as a treatment change.

had been a prior medication. The least common reason for a change in medication was maximum cumulative dose, which was responsible for 2 treatment changes, both of which stopped alefacept, a biologic now off the market.

Of the 77 medication changes made, 56% (n = 43) were to a medication the patient had not tried, 42% (n = 32) were to a medication the patient had tried, and 3% (n = 2) completely removed treatment. The majority of treatment changes involved adding and/or stopping a medication class. Only 6 treatment changes involved switching within the same medication class, 4 in the biologic class in 2 in the oral class (Table 4).

Discussion

Persistence to treatment in psoriasis is poor, and treatments are commonly stopped, augmented, or switched.⁵ Our study elicited the dermatologists' reasons for changing treatment. Inadequate control of the disease is the most common reason for a dermatologist to change a patient's treatment for moderate to severe psoriasis. This parallels the reasons for changing treatments from the patient's point of view, with inadequate disease control being the most common and side effects the second most common self-reported reasons for a

change.¹⁵ It also correlates with previous studies that ineffective treatment is the most common reason for stopping or switching biologic therapies.¹²⁻¹⁴

In addition to the patient preferences affecting treatment in our study, not wanting continual lab work, requesting a previously successful treatment, trying to become pregnant, and requesting to stop treatment because it was not beneficial enough to continue, other patient preferences leading to treatment changes include stopping for vaccinations or surgical procedures, desire to try new treatment, or substituting natural sunlight for treatment in summer months.¹⁵ Only 4 treatment changes involved switching from 1 biologic to another. Switching from 1 TNF-alpha inhibitor to another is beneficial in 27% to 49% of patients who fail the first medication.¹⁶⁻¹⁹

The cost of psoriasis treatment is high, especially when treatment failures are taken into account.²⁰⁻²² On average, there were approximately 0.3 treatment changes per visit, not including changes in topical treatments, and on average each patient was exposed to 10 medications, indicating there were many treatment failures or at least treatment changes, contributing to the cost of treatment. Frequent treatment changes due to poor control contribute to more than just economic burden; in addition to the costs of medications, there is the cost of

physical, social, and psychological burden of suffering with poorly controlled disease, costs that can be considered under the concept of cumulative life course impairment.^{23,24}

The limitations of this study include the small sample size and the single location of the chart review. However, the sample was representative of both genders, variable disease history, and different types of psoriasis. These data provide a strong foundation for planning larger studies to further define the frequency and causes of treatment changes in patients with psoriasis and to determine if patient characteristics, such as age, sex, and psoriasis severity, are associated with frequency or type of treatment changes.

The most common reason a physician changes the treatment for a patient with moderate to severe psoriasis is inadequate control by their current therapy. More efficacious drugs, drugs that maintain their initial efficacy, and/or ways to improve treatment efficacy need to be developed to improve psoriasis treatment. For now, treatment planning should consider that treatment changes may be needed, and psoriasis patient education can include information on potential need for treatment changes to help set appropriate expectations.

Declaration of Conflicting Interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Dr Feldman is a speaker for Janssen and Taro. He is a consultant and speaker for Galderma, Stiefel/GlaxoSmithKline, Abbott Labs, Leo Pharma Inc, and Novartis. Dr Feldman has received grants from Galderma, Janssen, Abbott Labs, Amgen, Stiefel/GlaxoSmithKline, Celgene, and Anacor. He is a consultant for Amgen, Baxter, Caremark, Gerson Lehrman Group, Guidepoint Global, Hanall Pharmaceutical Co Ltd, Kikaku, Lilly, Merck & Co Inc, Merz Pharmaceuticals, Mylan, Novartis Pharmaceuticals, Pfizer Inc, Qurient, Suncare Research, and Xenoport. He is on an advisory board for Pfizer Inc, Abbvie, and Celgene. Dr Feldman is the founder and holds stock in Causa Research and holds stock and is majority owner in Medical Quality Enhancement Corporation. He receives royalties from UpToDate and Xlibris. Kathryn L. Anderson has no conflicts to disclose.

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