

Case Report

Prolonged Water-only Fasting Followed by an Exclusively Whole-Plant-Food Diet in the Management of Severe Plaque Psoriasis: A Case Report

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Submitted: 26 August 2021

Accepted: 21 September 2021

Published: 22 September 2021

ISSN: 2373-9371

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OPEN ACCESS**Keywords**

- Psoriasis
- Water-Only Fasting
- Whole-Plant-Food Diet
- Nutrition

Abstract

Psoriasis is a chronic inflammatory disorder that manifests as cutaneous lesions and/or systemic conditions that can negatively affect patient quality of life. Psoriasis is incurable and standard of care consists of symptom management. We report the case of a 47-year-old male with a 28-year history of plaque psoriasis that underwent a 13-day, medically supervised, water-only fast, which coincided with a clinically meaningful reduction in the severity of his psoriatic lesions. After the water-only fast, the patient followed an exclusively whole-plant-food diet without medications and at the two-month, follow-up visit there was continued improvement with no new plaque formation. This case provides a basis for further inquiry into prolonged water-only fasting followed by an exclusively whole-plant-food diet in the treatment of severe plaque psoriasis.

BACKGROUND

Psoriasis is an immune-mediated, inflammatory disease with a chronic relapsing nature that is characterized by increased skin proliferation and systemic manifestations [1]. There are multiple clinical presentations and symptoms vary in severity [1]. Psoriasis is associated with decreased quality of life and numerous comorbidities such as metabolic, rheumatic, and cardiovascular conditions [2].

Psoriasis is incurable and current treatment options focus on reducing symptom severity by managing inflammation. Mild disease is treated with topical therapies, such as corticosteroids and vitamin D derivatives, whereas moderate-to-severe disease is more likely to be treated with systemic biologic agents or small molecules, phototherapy, or combination therapy [3]. Psoriasis treatment typically requires long-term medication adherence and discontinuation is often associated with relapse [4]. Biologic agents are especially effective for plaque psoriasis and have significantly less risk than traditional systemic treatment options [1,3]. However, biologic agents can be costly, are contraindicated during active infection and in patients with significantly compromised immune systems, and may increase risk of infection or other rare side effects [1,5]. Affordable treatments that improve symptoms and sustain remission without associated risks are needed.

Here we present the case of a man with chronic, severe plaque

psoriasis that regressed into remission after a 13-day, medically supervised water-only fast followed by a whole-plant-food diet free of gluten and added salt, oil, and sugar.

CASE PRESENTATION

A 47-year-old male, with a 28-year history of severe plaque psoriasis, presented to our health center with erythematous plaques and silver scales predominantly on his abdomen, right thigh, and right forearm (Figure 1a-c). He also presented with intertriginous psoriasis of the groin and bilateral fingernail and toenail bed manifestations that caused him debilitating pain, bleeding, and impaired mobility. He reported worsening of symptoms, including itching and asymmetrical arthritis, during the winter or periods of high stress. He was treated intermittently with topical corticosteroids but these treatments did not achieve full remission, with plaques remaining in at least one location, and he stopped using them approximately seven years prior due to personal concerns about long-term use. As an alternative, he adopted a plant-based diet with some added salt and sugar, which had little effect on his psoriasis plaques. The patient also reported a history of gastroenteritis during periods of increased stress with intermittent epigastric pain and increased bowel movements as the main symptoms. He had never smoked, did not drink alcohol, and exercised daily. On arrival, his weight, body mass index (BMI), and blood pressure measurements were within normal range (Table 1).

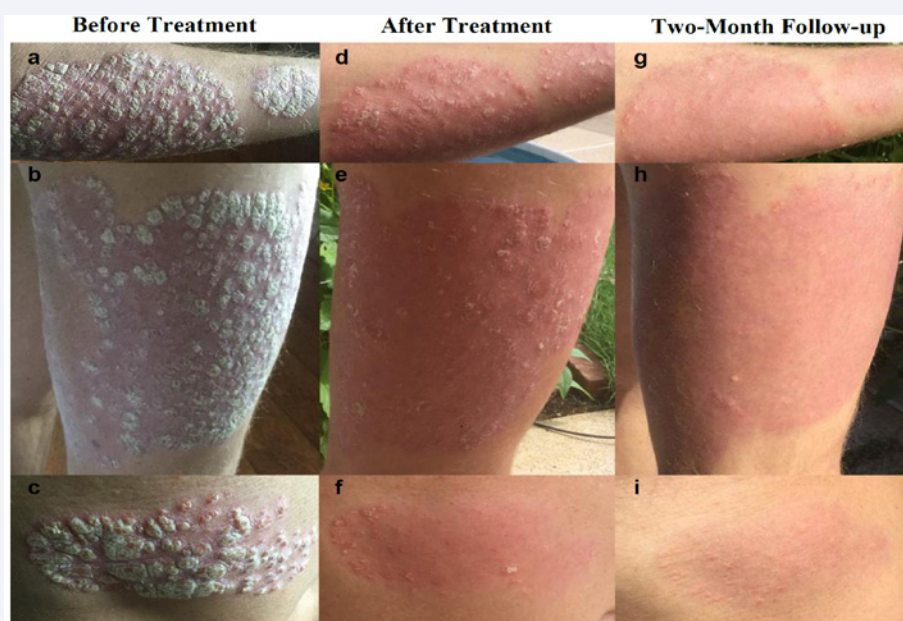


Figure 1 Psoriatic lesions on right upper forearm (a, d, g); right upper thigh (b, e, h); and upper right abdomen (c, f, i) before treatment, after treatment, and at two-month follow-up, respectively.

Table 1: Clinical Characteristics.

	Before	After Fast	After Refeed
Weight (kg)	74.9	67.4	67.3
BMI (kg/m ²)	23	20.7	20.7
SBP/DBP (mmHg)	115/64	121/81	106/72

kg, kilogram; m, meter; SBP, systolic blood pressure; DBP, diastolic blood pressure mm, millimeter; Hg, mercury

Treatment

The patient elected to undergo a medically supervised, water-only fast at our health center with the intention of improving symptoms associated with plaque psoriasis. He prepared by eating exclusively raw or steamed fruits and vegetables for two days prior to arriving to the center. Upon admission, he underwent a clinical exam and was approved for 13 days of water-only fasting followed by six days of refeeding, based on medical history, physical exam, and laboratory tests that demonstrated a lack of contraindications [6].

During the residential, medically supervised water-only fast, the patient consumed a minimum of 40 ounces of distilled water per day, and his vitals were monitored twice daily along with weekly serology to monitor electrolyte balance and other physiological functions. The patient’s electrolytes, liver and kidney function, and blood pressure remained within normal range and he experienced episodes of preexisting, mild epigastric discomfort throughout the entire fast. On fasting day eight, the water-only fast was interrupted with two 8-ounce servings of juice and one 8-ounce serving of therapeutic vegetable broth to ease mild discomfort felt along the epigastric region of the abdomen. The following day (day nine), he continued water-only fasting until day 13. The patient began refeeding on day 14 and completed a total of six days of refeeding using a high-sensitivity

protocol, which included five phases of food introduction increasing in complexity, from juicing, raw, steamed, to whole grains and legumes, until eating an exclusively whole-plant-food diet free of added salt, oil, and sugar.

Outcome and Follow-Up

At the end of treatment, the patient’s weight, BMI, and blood pressure remained within normal range (Table 1), and he experienced a significant improvement in the severity of psoriatic lesions. The lesions continued to improve during the exclusively whole-plant-food refeeding period (Figure 1d-f). The patient also reported a substantial improvement of nailbed psoriasis pain and arthritis. After returning home, the patient continued to eat an exclusively whole-plant-food free of gluten and added salt, oil, and sugar, and at two-months post-treatment he reported continued improvement of existing psoriatic lesions (Figure 1g-i) and no new plaque formation.

DISCUSSION

Plaque psoriasis pathophysiology is characterized by dysregulation of innate and adaptive cutaneous immune responses and an increase in chemokines and cytokines, such as TNF- α , IL-17, IFN- γ , and IL-23. There is a subsequent hyperproliferation and abnormal differentiation of keratinocytes. Inflammation and hyperplasia are sustained by continued

crosstalk between keratinocytes and immune cells. Biologic agents reduce inflammation in plaque psoriasis by directly targeting the IL-23/Th17 axis and TNF- α -signaling [1].

Preliminary research also suggests that fasting reduces systemic inflammation and may act by reducing pro-inflammatory T-cells and cytokines, including many involved in plaque psoriasis, as well as by increasing anti-inflammatory T-cells [7]. In the 1980s, Lithell et al.[8], observed that prolonged fasting followed by a vegetarian diet ultimately reduced lactoferrin and myeloperoxidase in psoriatic patients and symptom improvement continued upon refeeding. More recently, it was reported that a patient with a 1-year history of moderate-to-severe psoriatic arthritis and appendage lesions was able to discontinue medication and significantly reduce symptoms with a nine-day water-only fast followed by whole-plant-food refeeding; it was not reported if results were sustained in this patient [9]. Although limited, these findings support our observation that fasting initiated remission of psoriasis symptoms in the patient presented here.

Avoidance of inflammatory foods and low-caloric diet may also reduce inflammation and improve symptoms, especially in overweight/obese patients, and has been recommended as an adjuvant treatment to standard therapies [10-12]. It was recently reported that a patient with an 18-year history of methotrexate-controlled, psoriatic arthritis, was able to discontinue the medication and sustain at least a three-year remission by adhering to a whole-plant-food diet, similar to the one described here [13]. The patient presented here was of normal weight and dietary change alone did not improve his symptoms, but the two-month follow-up outcome suggests that an exclusively whole-plant-food diet free of gluten and added salt, oil and sugar may have sustained remission following water-only fasting. This outcome is especially meaningful considering that the majority of psoriasis remissions require a maintenance phase of continued topical treatment [14]. The degree to which fasting, diet, or the combination contributed to sustained remission remains to be determined. This case sets a precedent for further research into the use of prolonged water-only fasting followed by a whole-plant-food diet in the management of moderate-to-severe plaque psoriasis.

ACKNOWLEDGEMENT

The authors would like to thank the staff at the TrueNorth Health Center.

Statement of Ethics

This report was prepared ethically in accordance with the World Medical Association Declaration of Helsinki. This is a case report describing the treatment of a single patient and does not meet the federal definition of human subject's research and is exempt from ethical committee approval. The patient provided written informed consent to publish their case including images.

Conflict of Interest Statement

A.C.G. is owner of the TrueNorth Health Center. All other authors have no conflicts of interest to declare.

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Cite this article

Bonjour M, Gabriel S, Valencia A, Goldhamer AC, Myers TR (2021) Prolonged Water-only Fasting Followed by an Exclusively Whole-Plant-Food Diet in the Management of Severe Plaque Psoriasis: A Case Report. *J Dermatolog Clin Res* 9(1): 1142.