

## Treatment and Management of Psoriasis: A review

Tahmina Haque <sup>1,\*</sup>, Md. Mustafizur Rahman <sup>2</sup> and Md. Aktarul Islam <sup>1</sup>

<sup>1</sup> Department of Pharmacy Primeasia University, Bangladesh.

<sup>2</sup> Department of Pharmacy Northern University, Bangladesh.

World Journal of Advanced Research and Reviews, 2021, 12(02), 441–447

Publication history: Received on 11 October 2021; revised on 17 November 2021; accepted on 19 November 2021

Article DOI: <https://doi.org/10.30574/wjarr.2021.12.2.0605>

### Abstract

Psoriasis is a common, chronic inflammatory skin disease affecting many people of the world now a days. Psoriasis is principally an immunological T lymphocyte-driven disease, relating both the distinctive and T-cell-mediated immune systems. The mostly affected sites comprise the scalp, extensor surfaces of the knees and elbows, umbilicus, genitalia, anterior lower legs and nails. This disease can significantly impact on a patient's quality of life and is connected comorbidities comprise psoriatic arthritis, obesity and the metabolic syndrome, diseases of cardiovascular system and liver with fats. Provided treatment is depends on disease severity, quality of life, patient preference, relevant comorbidities and efficacy of the treatment. Treatment such as topical emollients, tar, analogues of vitamin D and corticosteroids are first line for local/mild disease. Psoriasis cannot be fully cured once it affects a person but can be managed by proper taking care of the skin according to the doctors. Patient counseling can also add benefits in the management of psoriasis.

**Keywords:** Psoriasis; T-Lymphocytes; Treatment; Patient Counseling

### 1. Introduction

Psoriasis is a chronic inflammatory disease of the skin that affects almost 2% of the world's total population [1]. It is characterized by skin cells that multiply up to 10 times faster than normal [2]. Psoriasis was first recognized and described accurately by England's Dr. Robert Willan at around 1809, as a specific clinical entity [3].

Psoriasis is a complex disease with lifelong emotional and social consequences for affected patients. It also lessens the patients' quality of life and needs a long-term supervision. For this reason, self management strategies are essential in addition to appropriate treatment of the disease to improve patient health and quality of life [4].

It is a chronic skin disease that may develop at any age. The United States and Europe propose that psoriasis accounts for 4% of skin diseases in kids [5].

#### 1.1. Types of Psoriasis

There are different types of psoriasis and it's possible to have more than one type [6].

\* Corresponding author: Tahmina Haque  
Department of Pharmacy Primeasia University, Bangladesh.

### 1.2. Chronic plaque Psoriasis

Among different types of psoriasis, the most common one is plaque psoriasis or psoriasis vulgaris. Almost 85 percent of people with psoriasis have plaque psoriasis which is characterized by thick red patches of skin, often with a silver or white flaking layer [6].



**Figure 1** Plaque psoriasis

### 1.3. Guttate Psoriasis

Streptococcal infection like pharyngitis or perianal infection classically triggered a distinct variant of psoriasis called guttate psoriasis which is more common in kids and adolescents than adults. In this case, patients severely present small drop like lesions which respond well to topical treatments and phototherapies [6].



**Figure 2** Guttate psoriasis

### 1.4. Flexural Psoriasis

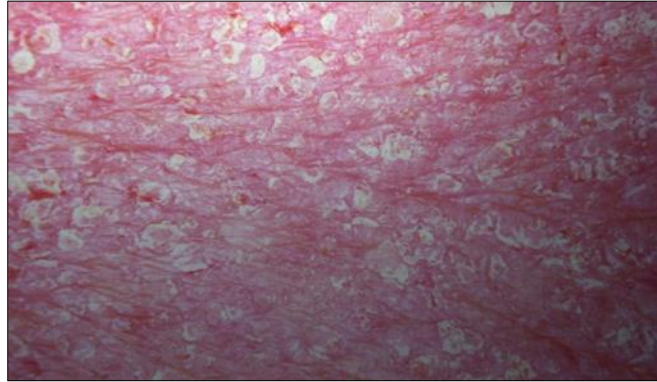
The quality of life of a psoriatic patient may be impaired considerably by facial and flexural psoriasis. This type of psoriasis is an extrapolar marker indicating a poor prediction of psoriasis. Facial and flexural psoriasis cannot be considered as dissimilar disease entities but rather as site differences [7].



**Figure 3** Flexural psoriasis

### 1.5. Erythrodermic Psoriasis

Erythroderma is a scaly erythematous dermatitis that involves 90% or more of the cutaneous surface. The most mutual dermatoses underlying erythroderma are psoriasis and eczema. Erythroderma may be also caused by cutaneous T cell lymphomas [8].



**Figure 4** Erythroderma psoriasis

### 1.6. Pustular Psoriasis

The patients who are suffering from pustular psoriasis or related pustular diseases may genetic abnormalities which impair the function of crucial players of the innate skin immune system. Detection of these irregularities has changed the paradigm of these diseases recently [9].



**Figure 5** Pustular psoriasis

### 1.7. Palmoplantar Psoriasis

Plaque psoriasis that involves the palms and soles is characterized as palmoplantar psoriasis. This type of psoriasis is a challenge for dermatologists that is difficult to be treated with topical and systemic therapies [10].



**Figure 6** Palmoplantar psoriasis

### 1.8. Scalp Psoriasis

Scalp psoriasis can affect patients' lives harmfully and is often resistant to the treatment that is not been a major focus of a scientific study. The activity of secukinumab of patient-reported outcomes of scalp psoriasis is evaluated by this analysis [11].



**Figure 7** Scalp psoriasis

### 1.9. Nail Psoriasis

About 80% patients with psoriasis are likely to develop nail psoriasis as a result of the conditions of their nails as nails are considered epidermal appendages. Psoriasis can cause nail disorders of two patterns [12].



**Figure 8** Nail psoriasis

### 1.10. Psoriatic Arthritis

An inflammatory rheumatic disorder of unknown etiology occurring in patients with psoriasis is named as psoriatic arthritis. An authenticated set of classification criteria for psoriatic arthritis having specificity of 98.7% and sensitivity of 91.4% and has recently established by The Classification Criteria for Psoriatic Arthritis group [13].



**Figure 9** Psoriatic arthritis

### 1.11. Symptoms

The signs and symptoms of psoriasis vary depending on the type and severity of the skin disease. People may have one, two or more form of psoriasis. Raised reddish patches, white pustules red, scaly patches, smooth lesions, red spots and nail changes are the common signs and symptoms of psoriasis [14].

### 1.12. Diagnosis

Psoriasis is identified on the basis of clinical findings (skin rash, changes to nails, joint involvement) and is generally straightforward. Patients present with atypical skin lesions that need to be distinguished from tinea, mycosis fungoides, discoid lupus, or seborrheic dermatitis, or non-specific skin signs such as negligible scaling of the scalp, isolated flexural erythema, or genital lesions.

Histologically, psoriasis is characterized by epidermal thickening as a result of proliferation and impaired maturation of keratinocytes (keratinocyte maturation cycle is 28-30 days normally whereas in psoriatic plaques this quickens to three or four days), leucocyte infiltration and formation of new blood vessel [15].

It's important to get an accurate psoriasis diagnosis in order to treat the condition appropriately.

Skin biopsy is the most commonly used diagnostic procedure but doctors will often order the following tests to help confirm a diagnosis:

- Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) level. These are blood tests that measure inflammation in the body.
- Complete blood count, kidney function and electrolytes, and liver function tests.
- MRIs and X-rays of the affected joints. MRI and ultrasound will identify any wearing down and inflammation in joints former than X-rays.
- Rheumatoid factor (RF) and anti-cyclic citrullinated peptide (CCP) antibodies. The presence of these antibodies is used to confirm a diagnosis of rheumatoid arthritis rather than PsA (Psoriatic arthritis).
- Anti-nuclear antibodies or ANA. These antibodies are often present in people with PsA [16].

---

## 2. Risk factors

Anyone can develop psoriasis, but the factors like family history, viral and bacterial infections, stress, obesity and smoking can increase the risk of developing the disease. [18]

### 2.1. Treatment and Management

The condition is slight and can be treated by creams in most cases. However, a low percentage of kids have moderate to severe disease requiring drugs, such as ciclosporin or methotrexate, and few will need injections with newer biological agents, such as anti-TNF (tumour necrosis factor) drugs. Anti-TNF drugs (among them etanercept, infliximab, and adalimumab) are intended to decrease inflammation in the body produced by tumour necrosis factor. There is lacking of evidence for the safety and efficacy of these biological mediators in paediatric psoriasis [5].

Systemic treatments, including methotrexate and cyclosporin, are associated with potential hepatotoxicity, due to either direct liver damage or suppression of immunity or both immunomodulated and a direct liver damage; therefore, treatment of patients with psoriasis poses a therapeutic challenge [1].

Psoriasis treatments reduce inflammation and clear the skin. Treatments can be divided into three main types: topical treatments, light therapy and systemic medications.

Topical psoriasis treatments include:

topical corticosteroids, vitamin d analogues, anthralin, topical retinoids, calcineurin inhibitors, salicylic acid and coal tar. Oral or injected medications include retinoids, methotrexate and cyclosporine. Medications like Thioguanine (Tabloid) and hydroxyurea (Droxia, Hydrea) can be used if other drugs can't be given [17].



Psoriasis management may involve systemic and topical medication, phototherapy, stress reduction, climatotherapy, and various aides such as moisturizers, sunlight, salicylic acid, and other keratolytics like urea [18].

Taking daily baths, using moisturizer, exposure of skin to small amounts of sunlight, avoiding psoriasis triggers and drinking alcohol are some steps to manage psoriasis [18].

---

### 3. Conclusion

It is clear that psoriasis has a major impact on an individual's psychological well-being and consequently affects their quality of life. Proper counseling and management can improve the mental condition of a psoriatic patient.

---

### Compliance with ethical standards

#### *Acknowledgments*

We acknowledge the referees for their information's.

#### *Disclosure of conflict of interest*

There is no conflict of interest.

#### *Statement of informed consent*

Not applicable

---

### References

- [1] Fiore M, Leone S, Maraolo AE, Berti E, Damiani G. Liver Illness and Psoriatic Patients. *Biomed Research International*. February 2013; 2018(3): 1-12.
- [2] Charles Patrick Davis, MD. Psoriasis Types, Images, Treatments. *OnHealth*, November 2020. Available from [https://www.onhealth.com/content/1/psoriasis\\_rash\\_skin](https://www.onhealth.com/content/1/psoriasis_rash_skin)
- [3] Paola Di Meglio, Federica Villanova, Frank O. Nestle. Psoriasis. *Cold Spring Harbor Perspectives in Medicines*. 2014 Aug; 4(8): a015354.
- [4] Safdari R, Firoz A, Masoorian H. Identifying training and informational components to develop a psoriasis self-management application. *Medical Journal of the Islamic Republic of Iran*. 2017; 31(1):383-390
- [5] Sanclemente G, Murphy R, Contreras J, García H, Bonfill Cosp X. Anti-TNF agents for paediatric psoriasis. *Evidence-Based Child Health A Cochrane Review Journal*. 2015 Nov; 24(11): CD010017.
- [6] Katherine Brind'Amour. Palque Psoriasis: Symptoms, Treatments and Complications. *Healthline*. 2019. Available from <https://www.healthline.com/health/plaque-psoriasis-pictures>
- [7] Van de Kerkhof PC, Murphy GM, Austad J, Ljungberg A, Cambazard F, Duvold LB. Psoriasis of the face and flexures, *Journal of Dermatological Treatment*. 2007; 18(6): 351-60.
- [8] Zattra E, Belloni Fortina A, Peserico A, Alaibac M. Erythroderma in the era of biological therapies. *European Journal of Dermatology*. Mar-Apr 2012; 22(2): 167-71.
- [9] Bachelez H. Pustular psoriasis and related pustular skin diseases. *British Journal of Dermatology*. 15 Jan 2018;178(3):614-618.
- [10] Rocamora V, Garcías-Ladaria J. Complete response of secukinumab in palmoplantar psoriasis, *Dermatology Online Journal*. 15 Oct 2017; 23(10): PMID: 29469799.
- [11] Feldman SR, Green L, Kimball AB, Siu K, Zhao Y, Herrera V, Nyirady J, Alexis AF. Secukinumab improves scalp pain, itching, scaling and quality of life in patients with moderate-to-severe scalp psoriasis, *Journal of Dermatological Treatment*. Dec 2017; 28(8): 716-721.
- [12] Karen Regina Rosso Schons, Cristiane Faccin Knob, Nádia Murussi, André Avelino Costa Beber, Walter Neumaier, Odirlei André Monticielo. Nail psoriasis: a review of the literature, *Anais Brasileiros De Dermatologia*. Mar-Apr 2014; 89(2): 312–317.

- [13] Cantini F, Niccoli L, Nannini C, Kaloudi O, Bertoni M, Cassarà E. Psoriatic arthritis: a systematic review, *Int J Rheum Dis.* Oct 2010; 13(4): 300-17.
- [14] Stephanie S. Gardner and MD.WebMD. Psoriasis. 2021.  
Available from <https://www.webmd.com/skin-problems-and-treatments/psoriasis/understanding-psoriasis-basics>
- [15] Catherine H Smith. consultant dermatologist and J N W N Barker, professor of clinical dermatology, Psoriasis and its management, *BMJ.* 19 Aug 2006; 333(7564): 380–384.
- [16] Goretti Cowley. Tests, diagnosis and treatment for Psoriatic arthritis. 2019.  
Available from <https://www.medicalnewstoday.com/articles/316741#new-guidelines>
- [17] Feldman SR, et al. Treatment of psoriasis in adults. March 16, 2020.  
Available from <https://www.uptodate.com/contents/search/>.
- [18] Jacqueline Habashy, DO, MSc. Psoriasis Treatment & Management. 2017.  
Available from <https://emedicine.medscape.com/article/1943419-treatment>.