

CONCEPT OF *EK KUSHTHA* IN THE LIGHT OF PSORIASIS

- A REVIEW

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ABSTRACT

In Ayurveda skin diseases are defined under the heading *Kushtha*. Skin is the first line of defence in our body against any harmful effects. Nowadays skin diseases are more than a cosmetic nuisance as they produce anxiety, depression and other psychological problems that affect the quality of life. Here it is important to remember the citation of *Acharya Charaka* has cited regarding the relationship between the *Twacha* and *Mana*, *Twacha* is considered as '*Chetah Samvayi*' i.e. the skin has an eternal relationship with *Mana*(psyche/mind). Therefore, more than a cosmetic nuisance, dermatological disorders Nowadays skin diseases are affecting mental health more than physical because it disturbs cosmetic harmony, as said in Ayurveda "*Kushnati iti Kushtha*" means which makes one's skin look disgraceful or ugly or which destroys *Twak* and other *Dhatus*. *Ek- Kushtha* is a type of *Kshudra Kushtha* characterised by *Aswedanam*, *Mahavastu*, *Matyashaklopamam*. On the basis of signs and symptoms it can be correlated with Psoriasis. Psoriasis is a complex, chronic, multifactorial, inflammatory disease which involves hyper proliferation of the keratinocytes in the epidermis, with an increase in the epidermal cell turnover rate. At present time, Psoriasis is one of the most common human skin diseases. It ranges in severity from a few scattered red, scaly plaques to involvement of almost the entire body surface.

Keywords *Kushtha*, *Twacha*, *Matsyashaklopamam*, Hyperproliferation

INTRODUCTION

The skin is the largest organ of our body and acts as a bridge between internal and external environment and is also the seat of complexion, which maintains beauty and personality. It is one of the five *Gyanendriyas* described in *Ayurvedic* texts, which is responsible for "*Sparsha Gyan*". In *Ayurveda* all skin diseases are described under the broad term '*Kushtha*', it is a pathological condition which despises the skin. *Kushtha* is further classified into *MahaKushtha* and *Kshudra Kushtha*. The word "*Kushtha*" is derived from - '*Kush* nishkarshane' + '*Kta*' which means 'to destroy' or 'to scrap out' by adding the

suffix '*ta*' which stands for firmness or certainty. Thus, from this one can conclude that *Kushtha* means which destroys with certainty is *Kushtha*. In *Bruhatri Kushtha* is considered as *Mahagada* thus it shows the prevalence of the disease. It is clearly mentioned that "*Kushtha Dirghrogarama*" it shows the chronic nature of disease.¹ *Kushtha* is a pathological condition. In all types *Kushtha*, the basic body components vitiated are called as *Saptako dravya sangraha* i.e. *Tridosha* (*Vata*, *Pitta*, *Kapha*), *Twaka*, *Rakta*, *Mamsa* and *Lasika*. In *Ayurveda* "*Ekkushta*" has been described under the disease "*Kshudra Kushtha*". In *Bhavaprakash* it has been commented that

it has been named so, to stress its importance among *Kshudra Kushtha*. According to *Acharya Charak*, *Ekkushtha* is due to vitiation of *Vata & Kapha*. *Kushtha* is also considered as a *Papakarmaja Vyadhi* and has also been included in list of *Aupasargika Roga*.² In this article, different view of different *Acharyas* are compiled regarding *Ek-Kushtha* and is correlated with its possible modern diagnosis.

Ek Kushtha is a type of *Kshudra Kushtha*, according to *Acharya Charaka*, *Ek Kushtha* characterized by *Aswedana*, *Mahavastu*, *Matsyashakalavat*.³ Psoriasis is a common, chronic and non-infective skin disease characterized by well-defined slightly raised, dry erythematous macules with silvery scales and typical extensor distribution.⁴

NIDANA

According to *Acharya Charak* seven factors are involved in the pathogenesis of *Kushtha*, these are *Vata*, *Pitta*, *Kapha*, *Tvak*, *Rakta*, *Mamsa* and *Ambu*.⁵ *Acharya Charak* has been cited that *Kushtha* is a *Raktaja Roga*.⁶ Hence, the *Nidana* which are responsible for the vitiation of these seven components are also considered in the etiology of *Kushtha*. *Nidana* are categorised as *Aharaja*, *Viharaja* and *Mansika*. **Aharaja Nidana**: it includes intake of excess *Guru*, *Drava*, *Snigdha Ahara*, *Mithya Ahara*, *Viruddha Ahara* etc. Excessive intake of *Guru* and *Snigdha Ahara* produces *Dushti* in *Rasavaha Srotas*.⁷ *Acharya Charak* has also described '*Gurubhojanam Durvipakakaranam*'.⁸ *Guru Ahara* also leads to *Dushti* of *Mamsavaha Srotas*.⁹ Excessive *Drava* leads to *Dushti* of *Raktavaha Srotas*.¹⁰ The *Viruddha Ahara* leads to impairment of *Agni* and finally leads to indigestion. The indigested food materials turn sour and acts like a poison, which is termed as *Amavisha*.¹¹ This *Amavisha* pro-

vocates *Tridosha*.¹² *Ama* may generate immunological reaction which is mainly responsible for etio-pathogenesis of *Ek-Kushtha*.¹³

Viharaja Nidana: suppression of natural urges, excessive exposure to sun, sudden change from hot climate to cold and vice versa, over exertion and over exercises, day sleep, late night sleep and complications of Panchakarma therapy.¹⁴

Mansika Nidana: activities which have negative impact on mind like *Chinta*, *Shoka*, *Bhaya*, abusing deities and teachers, sinful activities and anti-social activities. This negative impact on mind leads to stress which in turn directly or indirectly plays a major role in the manifestation or aggravation of *Ek-Kushtha*.

ETIOLOGY OF PSORIASIS

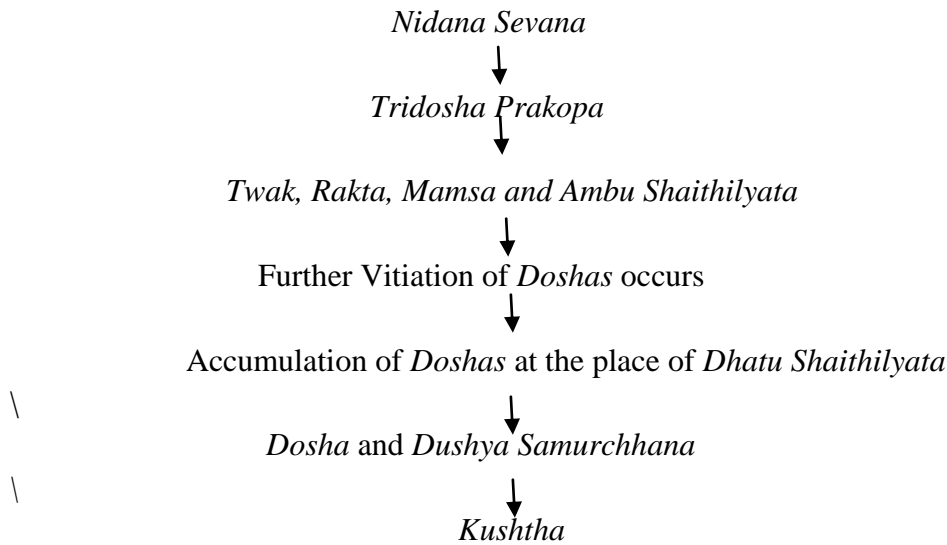
Exact aetiology of psoriasis is still unknown. Psoriasis is now considered as a multifactorial disorder that has several factors like:

- 1) **Genetic factors**- Research studies clearly established there is a genetic component in Psoriasis, as the incidence was found much greater among first- and second-degree relatives of patients with psoriasis.¹⁵
- 2) **Environmental factors**- These can be a mechanical trauma, various infections, cold weather, drug use (lithium salts, antimalarial, beta blockers, ACE inhibitors, NSAIDS, and the withdrawal of corticosteroids), any kind of psychological stress, smoking. The most compelling of these is infection with group A streptococci. Streptococcal throat infections frequently precede outbreaks of guttate psoriasis which can then lead to chronic plaque psoriasis.¹⁶
- 3) **Psychological stress**- it plays the most important role. Till date several studies suggested that most of dermatological dis-

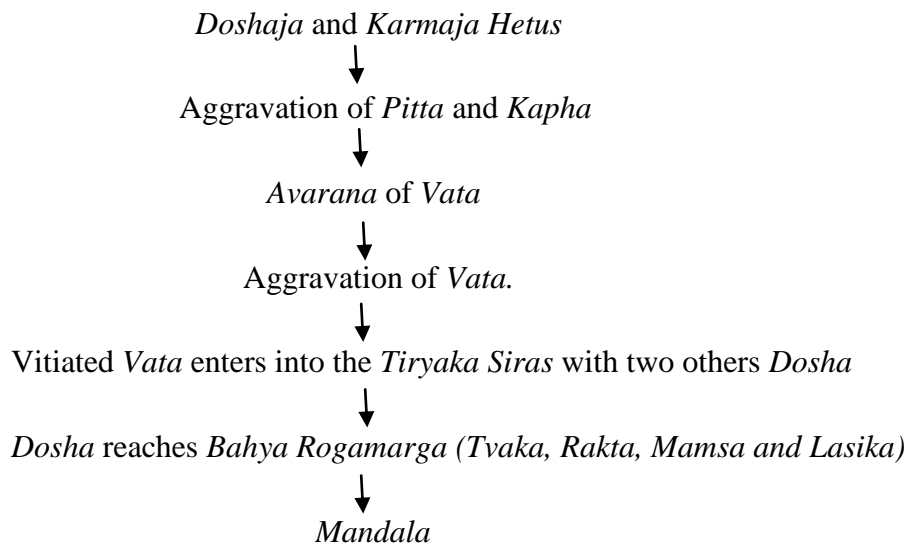
orders are chronic inflammatory, immunogenic and psychosomatic in nature.¹⁷

4) **Immunological factors:** Now psoriasis is considered as an autoimmune disorder and is mediated by a T helper type 1 cell (TH1-type immune) response. Agents which target activated T cells, and administration of cytokines that decrease type 1 T cell activation helps in the resolution of skin disease.¹⁸

SAMPRAPTI



Acharya Sushruta^{22,23} described that:



Pathophysiology of Psoriasis: Genetic susceptibility, skin barrier defect and deregulation of innate and adaptive immunity plays a major role in the pathogenesis of psoriasis. While some new studies are

Acharya Charaka has mentioned *Saptako Dravya Sangrah* (Vata, Pitta, Kapha, Tvaka, Rakta, Mamsa and Lasika) involved in the *Samprapti*.¹⁹ In *Kushtha Samprapti* *Nidana* plays dual part i.e. simultaneous vitiation of *Tridosha* and also *Shaithilyata* in the *Dhatu* such as *Twak, Rakta, Mamsa and Lasika* and thus the vitiated *Tridoshas* gain momentum to vitiate *Shithila Dhatu*.^{20,21}

suggestive of skin barrier function, T-helper 17 (Th17) pathway, innate immunity, signalling pathways, Th2 pathway, and adaptive immunity involving CD8 T cells. These studies illustrate the importance of both the keratinocytes and the

immune system for the pathophysiology of psoriasis.²⁴

- **Role of genetic susceptibility**

A study reveals that due to genomic imprinting, men are more likely than women to transmit psoriasis to the offspring.²⁵

Psoriasis has been associated with many (human leukocyte antigen) HLA haplotypes. By using linkage analysis and genome-wide association studies, at least nine candidate loci have been identified: 6p (PSORS1), 17q25 (PSORS2), 4q34 (PSORS3), 1q21 (PSORS4), 3q21 (PSORS5), 19p13 (PSORS6), 1p32 (PSORS7), 16q (PSORS8) and 4q31 (PSORS9).[11] A few non-major histocompatibility complex (MHC) susceptibility loci have also been identified, but they may be of limited value in disease prediction as they confer a low risk towards disease development. Many authors classify psoriasis as a genetically complex disease as it shares features like the pattern of inheritance, environmental influence and immune dysregulation with diseases such as diabetes mellitus and Crohn's disease.²⁶ PSORS1 accounts for 35-50% of heritability of the disease and is present in the HLA Class I region of chromosome 6p. HLA-C-*06 is the most likely susceptibility gene in the PSORS1 region and given its important role in antigenic presentation, the association reflects the role of the adaptive immune response in psoriasis.²⁷ Another gene called corneodesmosin (CDSN) gene also located on the same locus, it encodes a protein expressed in differentiated keratinocytes and is considered a genetic risk factor for psoriasis development. Since PSORS1 harbours both the CDSN gene and HLA-C-*06, it is quite possible that both adaptive immunity and defective barrier function are involved in the pathogenesis of psoriasis.²⁸

- **Infiltration of inflammatory elements**

Redness of psoriatic plaques is evident of inflammatory aspect of psoriasis. In psoriasis inflammation is increased both at local and systemic level due to several immune modulators, including various cytokines released from keratinocytes and other proteins involved in the inflammatory response. Interleukin-12 is a heterodimeric cytokine produced by macrophages, it induces differentiation of CD4 native T cells to Th1 cell and activates natural killer cells. These Th1 cells and activated natural killer cells produce interferon (IFN)- γ , and other type-1 cytokines, such as IL-2 and TNF- α . Interleukin-23 is a more recently described cytokine that is closely related to IL-12 in structure. The dominant role of IL-23 involves the stimulation of a subset of CD4+ T cells (sometimes called IL-17 producing T cells) to produce IL-17. IL-17 is a critical component in the establishment and, perpetuation of autoimmune inflammation. IL-17 induces the production of proinflammatory cytokines, predominately by endothelial cells and macrophages. IL-17 and IFN- γ synergize to increase production of proinflammatory cytokines by keratinocytes, which is likely important for the development of inflammation in psoriasis.²⁹ Likewise, pituitary adenylate cyclase activating polypeptide (PACAP) is an inflammatory mediator that is upregulated in psoriatic lesions. Immune cells synthesize PACAP, a regulatory neuropeptide of the VIP family. As neuropeptides are known for their involvement in skin and nervous system interactions, it can be concluded that its involvement in psoriasis also accounts for the tendency of psoriasis to worsen with stress.³⁰

- **Role of immunological factors**

Role of immune system in the pathogenesis of psoriasis was first understood 3 decades ago when successful use of cyclosporin in the treatment of psoriasis was proved.³¹ Activated T cells are believed to be the primary modulators in the pathogenesis of psoriasis. Disordered cellular immunity involving inflammatory cytokines (IL-1, IL-6, Tumour necrosis factor- α [TNF- α]) and proinflammatory transcription factor (NF- κ B, signal transduction and transcription and AP-1) has also been implicated.³² Depending on the presence of TNF- α , TGF- β and IL-6 naïve T-cells can differentiate into any of the four types of inflammatory cells (viz. Th1, Th2, Th17 or T regulatory cells).³³ In the presence of TGF- β and IL-6, naïve T-cells transform into Th17 cells.³⁴ These activated cells enter the circulation and extravasate through the endothelium to the sites of inflammation in skin where they produce the Th1-Th2-Th17 imbalance. IL-23, a heterodimer is produced by dendritic cells and macrophages. In recent studies the role of the IL-23/Th17 pathway has been intensely researched.³⁵

RUPA

Acharya Charaka has mentioned Ek-Kushtha under Kshudra kushtha and considered it is Vata-Kaphaja vikara³⁶ while Acharya Sushrut has considered it as Kapha Pradhan vikara.³⁷ According to Acharya Charak Ek-Kushtha can be described with the help of three cardinal signs as

- Aswedanam – absence of perspiration
- Maha-vastu – lesions invading the whole body
- Matsya-shakalopam – scaling resembles fish

Aswedanam

Aswedanam means no perspiration. Ek-Kushtha is a vata-kapha dominant disease, Aswedana is one of the Swedavaha Srotodushti Lakshana caused due to Sanga in Swedavaha srotas. Here both Vata and Kapha Dosha can cause 'Sanga'. Excess of Rooksha Guna (Guna of Vata) causes 'Samkoch' and accumulation of the material circulating in the Srotas. While increase in the Guru and, Picchila Gunas of Kapha cause such morbid material to be lodged in the srotas causing the sign of 'Sanga', thus causes Aswedanam. Due to absence of Sweda Pravritti, more and more Kleda is kept as it is in the body which further deteriorates the disease state. Swedavaha srotas got easily affected because the etiologic factors of Kushtha and Swedvaha Srotas are very much similar to each other (Ati Vyayam, Ati Santapa and Sheeta-Ushna Karma Sevan).

Mahavastu

Ek-Kushtha is Sarvang Vyapi as skin is the main site of disease. Acharya Sushrut has mentioned that a Vyadhi is generated only in the site where 'Kha'vaigunya exists and in this disease lodgement of the Dosha is in this 'Viguna area' (skin) causes the large invasion of the disease.

Matsya-shakalopam

Matsyashaklopam means the lesion are similar to the scales of fish or the thin layers present in the surface of Mica. As it is described in Garbha sharir "Vayum Vibhajate" means Vayu is responsible for cell division in the body. Whenever Vayu got altered, cell division becomes improper i.e. either less or more. Manas bhavas like Shoka, Bhaya, Chinta may also play an important role in cell division. Constant mental stress leads to Smruti Bhransha and ultimately causes Buddhi bhransha. These factors lead to improper messaging from Buddhi to Indriya. Twak has been included

in 'Gnyanendriyas', hence improper or uncontrolled *Vibhajana* occurs which ultimately leads to 'Twakadalan'.

Clinical Features of Psoriasis³⁸

- Well-demarcated erythematous plaques
- Silver-white micaceous scale
- Symmetric distribution on extensor regions such as elbows, knees, and buttocks, may be diffuse
- Haemorrhagic crusts, pinpoint bleeding when a scale is removed (Auspitz sign)
- Scalp lesions common
- Nail changes—pits and “oil” spots (yellow-brown discoloration of the nails that look like oil)

On the basis onset, evolution and morphology into:

1. Chronic plaque psoriasis

- The commonest form
- Mildly itchy papule or plaque
- Well demarcated lesions, especially in flexures and glans
- Erythematous, silvery white scales, indurated

2. Guttate psoriasis:

- Age: occur in children and adolescent
- May be precipitated by streptococcal tonsillitis
- Generalized multiple small thin scaly plaques
- Site of predilection: Trunk

3. Pustular psoriasis:

- Triggers: irritant tropical therapy, withdrawal of topical or systemic steroid
- Localised: in chronic plaque psoriasis, when plaques are surmounted with pustules and as a manifestation of palmoplantar psoriasis
- Generalized: as seen in von Zumbusch's pustular psoriasis

4. Inverse psoriasis:

- Common site of involvement are the flexural surfaces, armpit, and groin, under the breast and in the skin folds.

5. Erythrodermic psoriasis:

- Typically encompasses nearly entire body surface area with red skin and a diffuse, fine, peeling scale.

DISCUSSION

In *Ayurveda* all skin diseases are described under the term *Kushtha* and *Ek-Kushtha* is one of its types. *Ek-Kushtha* is most closely resembles to Psoriasis. Psoriasis is a long-lasting autoimmune disease characterized by erythematous sharply demarcated papules and round plaques covered by silvery scales. Psoriasis varies in severity from small, localise patches to complete body coverage.

The most important factor for psoriasis is genetic factor, it can be focused as *Kulaja Nidana* of *Ek-Kushtha* i.e. it is an *Adibala-prabritta vyadhi*. In *Kushtha Nidana*, *Ahara Nidana* is explained in the same way in modern science also diets play a role in the aetiopathogenesis of psoriasis. *Manasika Nidana* of *Ek-Kushtha* as Psychological stress factors mentioned in dermatological disorders. Environmental factors (various kinds of mechanical injury, ultraviolet injuries and excessive exposure to sunrays), infection is supposed to be a triggering factor whereas, *Samsargaja Nidana* mentioned in classics. *Samprapti* of *Kushtha* is mentioned as the vitiated *tridoshas* cause *Shaithilya* of *Twak*, *Rakta*, *Mamsa* and *Lasika* and *Dosha* take shelter there resulting in *Dosha Dushya Sammurchana* and thus, leading to *Kushtha*. On the other hand, in modern pathogenesis of psoriasis can be understood as the epidermis is infiltrated by a numerous number of activated T cells, they induce keratinocyte proliferation. As a result, in the affected skin there is vascular engorgement due to

superficial blood vessel dilation and altered epidermal cell cycle. Accelerated cell turnover rate (from 23 d to 3-5 d) due to epidermal hyperplasia, leading to improper cell maturation. In addition to parakeratosis, affected levels of lipids are not released by affected epidermal cells, which normally responsible for adhesions of corneocytes, as a result poorly adhered stratum corneum leads to flakes and scales of psoriasis. From the above discussion one can conclude that *Twak Dushti*, *Rakta Dushti*, *Ambu Dushti* mentioned in Ayurvedic classics can be considered as:

- Epidermal proliferation, dilation & proliferation of dermal blood vessels
- Accumulation of inflammatory cells particularly neutrophils and T lymphocytes
- Intra epidermal occlusion of sweat ducts explained in the allopathic science respectively.

Based on clinical features, it can be concluded that psoriasis mostly resembles with the *Roopa* of *Ek-kushtha* like *Matsyashaklopamam*, *Mahavastu* and *Aswedanam*. Regarding treatment of Psoriasis in modern medicine, there is very limited scope. Various preparations like topical and systemic applications are used, but these procedures are with serious side effects. On the other hand, as we know psoriasis have remission and relapses so Ayurveda emphasizes on 3-fold therapeutic treatment which includes *Nidana Parivarjana*, *Shodhana* and *Shamana*.³⁹ According to *Acharya Charaka Vaman* should be used in *Kapha* predominant and *Virechan & Raktamokshana* in *Pitta* predominant *Kushtha* for the management of *Vata* predominant *Kushtha* is *Ghrita Pan. Tikta* and *Kashaya Rasa* predominance drugs should be used for palliation of *Kushtha*.⁴⁰

Acharya Sushruta advises the use of *Nasya Karma* every third day, *Vaman* on every fifteenth day, *Virechan* every month, and *Raktamokshana* on every six months for the management of *Kushtha Roga*.⁴¹

CONCLUSION

Kushtha is one of the chronic diseases described in Ayurvedic text. In Ayurveda most of skin disorders can be taken under general term "*Kushtha*". Psoriasis is correlated with *Ek-Kushtha* which is a type of *Kshudrakushtha* due to resemblances in signs and symptoms. Psoriasis is typically unpredictable in its course, may vary in severity from one episode or flare to another, and often recurs throughout an affected person's life. Symptom presentation can vary significantly from one patient to another. In the present era, stress and altered immunity are the major factors responsible for the manifestation of a wide range of dermatological disorders. The pharmacological and non-pharmacological measures for the management in dermatological disorders as described in Ayurveda are good immuno-modulators and anti-stress agent. Therefore, these measures, when used properly are cost effective and provide management in natural way with no adverse effects.

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