

**Etio-pathogenesis of *twacha vikar*: a review**Shruti Krishna Mapsekar* ¹, Ragini R. Patil²

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Abstract:

Twacha or skin is the largest organ in the human body enveloping the whole body. The thickness of skin varies according to the part of the body it covers. Since, skin is the barrier separating the internal tissues and organs from the external environment; it is more prone to various types of hazards. The skin is affected potentially due to two main reasons. First, that it is exposed to the harmful environmental factors and secondly due to the degenerative and *neoplastic* changes occurring within its own various cells types which is the reason for majority of skin diseases, as it is generally seen that the most common reason for manifestation of skin diseases is faulty dietary habits.

Keywords: *etiopathogenesis*, gastrointestinal tract, *raktadushti*, skin diseases, *twacha*, *viruddhahar*

Introduction:

According to *ayurveda*, *viruddhahar* is the root cause for

raktadushti, the symptoms of which are shown on the skin. *Twacha* is considered as *bahya rogamarga*. It comprises of seven layers and each layer is a seat for a variety of skin diseases. The *aetiopathogenesis* of *twacha vikar* starts from the gastrointestinal tract itself as both entities have the same *embryogenic* origin. Hence, it can be said that metabolic alterations may lead to skin diseases. Therefore here in this paper an attempt has been made to elaborate the *aetiopathogenesis* of skin diseases with its *Ayurvedic* and modern aspect focusing mainly on dietary causative factors.

Aim and Objects:

- To study the *aetiopathogenesis* of *twacha vikar*.

Anatomy of Twacha

The integumentary system, consisting of the skin and accessory structures such as hair nails and glands, is the most extensive organ system in the body.¹ It weighs up to 4.5-5 kg which is

about 16% of total body weight. *Twak* (skin) is essential covering of the body, present since birth that encloses all the components of the body like *Meda*, *shonit*, etc.² According to *Ayurveda*, the skin is said to be made of seven layers and the thickness of skin varies according to the part of the body it covers.³ Skin forms a protective barrier, thus protecting the internal tissues from external hazards. It has variety of functions but mainly protection, touch sensation and regulation of body temperature. The seven layers namely *Avabhasini*, *Lohita*, *Shweta*, *Tamra*, *Vedini*, *Rohini* and *Mamsadhara kala* are seats for a variety of skin conditions like *sidhma*, *padmakantaka*, *vyanga*, *nyachha*, *tilakalaka*, etc.⁴

Pathogenesis of Twacha Vikar

Raktadi dhatus and *twacha* are said to be *Shakha* and it is the *bahya roga marga*.⁵ This *bahya roga marga* is the main seat of manifestation of *raktadushtijanya roga*. *Dushta rakta* circulates in all parts of the body and manifests the symptoms according to the virulence of *doshas*. Normal *rasa* and *agni* are able to form *rakta*. The tissues in the body have the selective action to pick their nutrients. When the ingested food is correctly processed for assimilation, wholesome *poshakansha* of *rasa* is formed. The main entity facilitating the process of digestion is *Jatharagni*. Proper digestion of nutritious food and its absorption in body depends on balanced state of *jatharagni* and *pachak pitta*.⁶ *Agnimandya* is said to be the chief reason for origin of all diseases. When the functioning of *pitta* is hampered by any external cause like *viruddhahar* it further vitiates *agni* and this in turn leads to excessive

doshaprakop. This *doshaprakopa* again causes *agnimandya* and when this cycle continues there is constant formation of *ama* which contaminates the *rasa poshakansha*. With the parallel dysfunctioning of *dhatvagni*, there is further contamination of the *rakta poshakansha* making it lose its normal properties.⁷ The *pradusht rakta* so formed along with the vitiated *doshas* adopt *tiryak gati* thereby circulating all over the body. There is vitiation of subsequent *dhatus* and by the virtue of *sthansamshraya* there is *sanga* of *prakupit doshas* at skin level giving rise to various skin lesions.

Correlation of raktadushti and twacha vikar according to modern science

It is mentioned by Acharyas that if the ingested food remains idle in the *amashaya* and is not being acted upon by *jatharagni* to its optimum, it converts into *ama* and later it attains *shukratva* and hence it becomes equivalent to *visha*. This concept of *visha* in this context can be understood in precise with the help of concept of antigen antibody reaction and complement system activation in modern science. The term complement refers to system of factors that occur in normal serum and is activated characteristically by antigen antibody reaction and which subsequently mediates a number of biologically significant consequences.⁸ The biological activities of this system affect both innate and acquired immunity far beyond the concept of antibody mediated lysis of bacteria and erythrocytes. Complement is normally present in the body in an inactive form but when its activity is induced by antigen antibody combination or other stimuli, its components react in a specific sequence as



a cascade. Complement is a complex of nine different fractions C1 to C9. The erythrocyte antibody complexes along with C components react in a sequence EAC 14235. The cascade can be triggered of by three parallel pathways of which the classical pathway requires specific immune reaction for activation. The first step of this pathway is binding of C1 to antigen antibody complex followed by splitting of C4 and cleaving of C2 in the presence of magnesium ions giving rise to C3 convertase. Once C3 activation occurs the subsequent steps are common to all. It is the most important phase of the process as the membrane attacking phase begins at this stage. With C3 activation as the centralized point of reaction, the three pathways converge at the membrane attacking complex. This MAC forms a large channel through membrane of the pathogen due to which the cell by virtue of diffusion of free ions loses its osmotic stability and is killed by an influx of water and loss of electrolytes. The complement mediates immunological membrane damage, amplifies the inflammatory response and participates in the pathogenesis of certain hypersensitivity reactions.

Hence it can be said that the toxins which are generated due to the process of formation of *ama*, enter the circulation because of which the tissues lose their resistance and become prone to bacterial invasion. The reactions so occurred give rise to tissue damage. By the virtue of *sthanvaigunya*, the skin associated lymphoid tissue is affected due to which histamine secretions suddenly spurt in the circulation. The outcome of this whole process is manifested on the skin in the form of various skin lesions.

Conclusion:

Twacha and *rakta* being considered as the *bahya rogamarga*, *raktadushti* primarily manifests in the form of skin lesions. *Ama* which is the main cause for *raktadushti*, acts as an antigen leading to antigen-antibody reaction followed by complement activation further leads to tissue damage and with skin having the affinity to specific antigen i.e. *sthanvaigunya*, its symptoms are manifested on the skin.

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