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ISSN 2321 - 6328

Review Article

CONCEPTUAL ANALYSIS OF DADRU VIS-À-VIS TINEA

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Article Received on: 09/06/14 Accepted on: 10/08/14

DOI: 10.7897/2321-6328.02575

ABSTRACT

Dadru is a tridoshaja twak vikara with pittakapha predominance. Dadru presents clinically with the features of kandu, raga, pidaka, daha, rookshata, udgata mandala etc., which are very much similar with the features of *Tinea* like pruritis, erythema, vesicle or pustule etc., *Tinea* is a Latin word for gnawing worm which refers to the infection caused by the keratinophilic fungi which consist of multicellular filaments and multiply by spore formation. Hence an effort has been made to conceptually analyse Dadru with special reference to *Tinea*.

Keywords: *Tinea*, Dadru, kandu, raga, pidaka, daha, rookshata, udgatamandala.

INTRODUCTION

Skin is the protective organ of the body. It reflects the health of the individual. It is also a target organ for many infections. Once the skin disease has developed it resists to get cured causing physical, emotional and social embarrassment. About 10 - 20% of the general practice includes the patients suffering from skin disorders¹ and out of them fungal infections constitutes upto 20%².

Dadru being one among kushta is also a rasa, rakta and mamsadhatupradoshaja vikara.³ It is usually caused by nidanas under three major classification i.e, aharaja, viharaja and krimija. Here krimi can be considered for the related fungi which are dermatophytes capable of causing skin changes of the type known as *Tinea* or Ringworm or Dermatophytosis or Mycosis.⁴ *Tinea* is a group name for a highly contagious, segmented mycelia fungus⁵.

The nidana, samprapti, roopa and bheda of Dadru goes with many similarities with that of *Tinea*. This can be understood as the following:

Etiology

The etiological factors of Dadru can be categorised into aharaja, viharaja, chikitsa apacharaja, krimija and upasargaja. They include viruddaahara, mityaahara, atyashana, ajeernashana, asatmyaahara, shitoshnavyatyasasevana, ativyayama, ativyavaya, atisantapasevana, santarpana apatarpana vyatyasa, panchakarma apacharaja.

From above nidanas some specific reasons can be attributed as the causative factors for Dadru in particular, viz;

1. Among viruddahara, consuming matsya and ksheera together causes shonitaroga⁶. Dadru being one among the shonita roga this specific type of aharayoga if consumed in excess causes Dadru⁷.

2. In upasargaja nidana⁸, upasarga of infected vastra, gatra, maala and lepa acts as a specific nidana for developing Dadru.
3. Krimi – the bahyakrimi which develops in unhygienic condition^{9,10} causes Dadru.

The viruddha ahara; like, combined use of mulaka with dugda, lashuna with dugda, pippali with dadhi, lakucha with dadhi, matsya with ksheera, nimbuka with ksheera etc., for longer duration, leads to the vitiation of pitta and kapha. This in turn provides a base for the manifestation of Dadru. These can be considered as viprakrishta nidanas for dadru.

In Sushruta samhita we find nidanas like prasanga, gatrasmarsparsha, nishwasa, sahabhojana, sahashayya, saha asana, vastramalyanulepana which causes upasargaja rogas in which kushta (Dadru) is one among them. As *Tinea* gets infected from one individual to other by close contact, by exchanging the cloths etc.,¹¹ the nidanas like gatrasmarsparsha and vastramalyanulepana can be considered as sannikrishta nidanas for the manifestation of Dadru.

As krimi is also one of the cause for kushta, the malajakrimi which is produced in mala of medhadhatu (sweda) causes kandu, kota, pidaka, vaivarnyata. Raised carbon dioxide tension is known to facilitate arthroconidial (the type of fungal spores typically produced by segmentation of pre-existing fungal hyphen) formation and adhesion (1st phase of infection) and penetration into the skin through cells or between the cells (2nd phase of infection)¹². Moisture is also important for germination of arthroconidia.¹³ In this manner the krimi produced by excess of sweda causes Dadru. So here krimi can also be considered as sannikrishta nidana.

The same reasoning holds good for the viharaja nidanas also. Excessive exercises and over exposure to sunlight causes excessive production of sweat, which in turn results in the production of krimi and causes Dadru.

Pathogenesis

From above mentioned three major nidanas, there will be aggravation of pitta and kapha which inturn provokes vata. Thus all the vitiated tridoshas enters tiryakgata siras and reaches bahya rogamarga (twak, rakta, mamsa, lasika) and gets stabilized in these shithila dhatus. Simultaneously the upasarga of krimi which lodges in skin also causes shitalata of twagadidhatus and becomes vulnerable for the manifestation of the Dadru. As a result mandalas with kandu, raga and pidakas are produced at the sites, where doshas gets lodged.^{14,15,16}

Dermatophytes produces a variety of proteolytic enzymes, these protenases and some mechanical forces caused by hyphal growth helps in penetration in to the skin. Different species of dermatophytes vary widely in their capacity to invade the skin over different parts of the body.

In human beings the appearance of inflammation in ringworm correlates with the development of delayed type of skin reactivity to trichophytin and cytokines. Chronic infections are associated with poor T-lymphocytes mediated response to specific fungal antigens. Despite of this development, if the host resistance of both innate and acquired immune mechanism of the host is good then it will inhibit the causation of *Tinea*.

Here, different level of samprapti of Dadru is correlated with different stage of pathogenesis of *Tinea*

The krimi upasarga can be compared to Adherence Lodging of krimi in twacha to the stage of penetration Khavaigunya to reduced T lymphocytes, neutrophilis, monocytes mediated response
Shitalatha of twagadi dhatus to delayed type of skin reaction for trychophytin and cytokines
Thus the pathology in this manner develops Dadru vis-à-vis *Tinea*.

Clinical Features

The lakshanas of Dadru are kandu, raga, pidaka, daha, rookshata, udgata mandala which are similar to the cardinal symptoms of *Tinea* i.e, itching, erythema, pustule/ vesicle/ spongiosis, burning sensation, dryness and circular elevated lesions.

Types

Dadru is of two types i.e, sita and asita & *Tinea* is classified under superficial and deep mycosis. Superficial mycosis depending on the area affected, is subdivided into *Tinea capitis* (Ringworm of scalp and hair), *Tinea barbae* (Ringworm of beard and moustache), *Tinea carporis* (Ringworm of thorax and extremities), *Tinea mannum* (Ringworm of palms), *Tinea pedis* (Ringworm of soles), *Tinea cruris* (Ringworm of groins and

buttocks), *Tinea unguium* (Ringworm of nails), *Tinea faciei* (Ringworm of face).

Sitadadru is that stage where the doshas are in utthana dhatus, & so in superficial mycosis the skin depth of only 1-2 mm is involved but when neglected, doshas further moves and vitiates the gambheera dhatus by converting itself in to asita dadru i.e, deep mycosis, the root become deep (avagadha) by spreading the infection to deeper layers and causes systemic (deep) mycosis.

Based on this concept we can assume that in Charaka samhita Dadru is dealt under kshudra kushta which might be the early stage of dadru i.e, sita dadru and in contrast to this in Sushruta samhita Dadru is dealt under maha kushta which might be the later stage of dadru i.e, asita dadru.

CONCLUSION

On the basis of the conceptual analysis, the following conclusions can be drawn as follows. Dadru is a tridoshaja vyadhi with pittakapha predominance. Symptoms like kandu, raga, pidaka, daha, rookshata, udgatamandala, are the cardinal features of Dadru and they are similar to clinical features of *Tinea* like itching, erythema, pustule/ vesicle/ spongiosis, burning sensation, dryness and circular elevated lesions. Exposure to various nidanas makes twagadidhatus to become shithila and then makes it vulnerable for the adherence of krimis which causes Dadru vis-a- vis *Tinea*. Sita and asita are the two varieties of dadru which indicates utthana and gambheera condition of the disease which is similar to superficial and deep mycosis types of *Tinea*. So it can be concluded that the disease Dadru very well simulates with that of *Tinea*.

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Cite this article as:

Mythrey R C, Madhu H M, Gajanana Hegde Conceptual analysis of Dadru vis-à-vis Tinea. J Biol Sci Opin 2014;2(5):332-334 <http://dx.doi.org/10.7897/2321-6328.02575>

Source of support: Nil; Conflict of interest: None Declared