Review Article

www.ijrap.net

CRITICAL EVALUATION OF KSHUDRA KUSTAS OF CHARAKA SAMHITA: AN AYURVEDIC TREATISE IN LIGHT OF MODERN MEDICINE

R S Chalapathi ^{1*}, T Maheswar ², V Subhose ², R K Swamy ³

¹Sr. Consultant (Ay), National Ayurveda Research Institute for Vector Borne Diseases (NARIVBD), New rajivnagar, Payakapuram, Vijayawada, India

²Research Officer (Ay.), National Ayurveda Research Institute for Vector Borne Diseases (NARIVBD), New rajivnagar, Payakapuram, Vijayawada, India

³Assistant Director I/C, National Ayurveda Research Institute for Vector Borne Diseases (NARIVBD), New rajivnagar, Payakapuram, Vijayawada, India

Received on: 26/08/15 Revised on: 27/09/15 Accepted on: 01/10/15

*Corresponding author

E-mail: dr.r.chalapathi@gmail.com

DOI: 10.7897/2277-4343.0713

ABSTRACT

Kusta (Skin disease) is the broad spectrum word used in Charaka samhita to describe all the skin diseases under one head and it was classified into Mahakusta (7 major skin diseases) and Kshudra kusta (eleven minor skin diseases). In this review article an attempt is made to elicit all the eleven Kshudra kusta in the light of modern medicine. The symptomatology described in the Charaka samhita is compared to its nearest modern counterpart and elaborated to better explain the kshudra kusta in order to diagnose the prevailing skin diseases.

Keywords: Kusta, Mahakusta, Kshudra kusta

INTRODUCTION

Ayurveda, the eternal science which has its roots in Vedas, the oldest available literature, explains the health of an individual as the physical mental and social well-being. Charaka Samhita, an integral part of Ayurveda describes skin diseases under broad heading called Kusta of which Kshudra Kustas are eleven in number. The etiology of Kusta is varied, Virudhha ahara (Intake of mutually contradictory food and drinks) Vegadharana (suppression of natural urges) are major causative factors¹. In Charaka Samhita, Kusta (Skin disease in general) are majorly divided into 2 categories i.e. Maha Kusta and Kshudra Kusta. There is no clear explanation for this division but commentators tried to explain the difference between the Maha and Kshudra Kusta. Chakrapani explained that Kshudra Kusta have meager doshas, signs & symptoms in comparison to Maha Kusta hence the name Kshudra Kusta.² Dalhana explained about the word 'Mahat' that it has the ability to penetrate to the deeper tissue while Kshudra Kusta do not have the ability to penetrate the deeper tissue.³ In Nyaya Chandrika, commentator Gayadasa mentioned that Maha Kusta occurs due to extensive vitiation of doshas while in Kshudra Kusta there is no such severe and extensive vitiation of doshas from the beginning. There is confusion in diagnosing the kshudra kusta based on the symptomatology described in Charaka samhita, hence an attempt is made to explain these kusta on the basis of modern medicine in order to better diagnose and manage these skin diseases.

The description of the Kshudra Kusta is as follows:

Eka Kusta

The doshas involved are Vata Kapha, signs and symptoms being Aswedanam (Absence of perspiration on skin) Mahavaastu

(Extensive spreading all over the body), Matsya sakulopamam (Resemblance of scales of a fish).⁴ It can be compared to *Ichthyosis Vulgaris*. It is the most common disorder of cornification, with an estimated prevalence as high as 1 in 250 individuals. The symptoms being typical, fine, white, flaky scales develop on the extremities, especially on the extensor surfaces. On the lower limbs, the scales are usually larger with an adherent center and detached outward-turning edges. Mild hyper keratosis of palms and soles is common leading to accentuated skin markings (hyper linearity). In more severe disease, scaling extends to large areas of trunk, scalp, forehead and cheeks and may be associated with pruritus. Clinical symptoms and severity depend on season and climate. It subsides during the summer and humid condition, worsens in dry and cold environment.⁵

Charmakhya kusta

The doshas involved are Vata Kapha, signs and symptoms are Bahalam (The skin becomes thick) Hasticharmavat (The skin resembles that of elephant skin)⁶. It can be compared to *lichen simplex chronicus*. It is a disorder resulting from excessive scratching of the skin. It is unusual in children most frequently observed in older adults. The Lesions of *Lichen Simplex Chronicus* are characterized as hyper pigmented, lichenified, leathery plaques that result from habitual scratching and rubbing of the skin. The disposing factors include Xerosis and Atrophy. The plaques are usually well circumscribed with a predilection for the occipital and nuchal areas in women and the perineum and scrotum in men. It is an itching chronic dermatosis which is acquired in origin with evolving circumscribed lesions on sites prone to mechanical trauma such as rubbing and scratching etc. Iatrogenic activity plays major role in the perpetuation and induction of the condition⁷.

Kitima kusta

The doshas involved are Vata Kapha, signs and symptoms are Shyavam (Blackish brown discoloration of the skin), Khinakhara sparsha (affected skin will be rough to touch like the scar tissue), Parusha (It is hard to touch)⁸. It can be compared to Psoriasis. It is characterized by sharply demarcated and erythematous, papulosquamous lesion less often, nearly all the body surface is involved, or numerous small, widely disseminated papules and plaques are seen. Occasionally there are obvious microscopic pustules, as in generalized pustulosis. From the clinical prospective, Psoriasis can be regarded as a spectrum of different cutaneous manifestations. At any one point of time, different variants may co-exist in a particular individual, but the skin lesions all share the same hall marks, erythema, thickening and scale. Psoriatic lesions are classically very well circumscribed, circular red papules or plaques with grey or silvery white dry scale. The lesions are distributed symmetrically on scalp, elbow, knees, lumbo-sacral area and in folds of body. Trauma or injury may induce psoriasis which is called Koebner's phenomenon. Nail and joint involvement is distinct in chronic cases of psoriasis.⁹

Vipadika

The doshas involved are Vata Kapha, signs and symptoms will be Panipadasputanam (cracks in the palms and soles of feet), Tivravedana (excruciating pain)¹⁰. It can be compared to cracked feet. It is hard growth of skin on the outer edge of the heel, yellow or dark skin on the heel. Pain increases in thin soles or open back shoes while walking. Red or flaky patches on the heel of the foot, peeling and cracked itchy skin.

Alasaka kusta

The doshas involved are Vata Kapha, signs and symptoms being Gandayukta (Nodular growth on the skin), Kandu (itching) and Raga (redness). It can be compared to *Prurigo nodularis*¹¹. It is a skin condition characterized by the presence of multiple nodules and papules that the central scale crust and are often due to intense pruritus. It occurs in all age groups, but primarily afflicts adults, especially middle aged women. The lesions of *Prurigo nodularis* are characterized as hard dome-shaped Papules or nodules with central scale-crust. The colour varies from brown to skin coloured. Multiple excoriations, post inflammatory hyper pigmentation and superficial scarring are also often seen. *Prurigo nodularis* is a chronic disorder characterized by papulo-nodular pruriginous eruption of unknown etiology. A variety of systemic conditions like hyper thyroidism, hepatic failure, renal failure may be associated with this disease. The mechanism by which these disorders trigger *prurigo nodularis* is unknown.¹²

Dadru

The doshas involved are Kapha pitta, signs and symptoms being Kandu pidaka (itching sensation and redness with papules). Mandala (circular patches with elevated edges)¹³. It can be compared to *Tinea* infection. *Tinea* is the name of a group of disease caused by fungus (Dermatophytes). They are caused by three genera of fungi that have the unique ability to invade and multiply within keratinized tissue. (Hair, Skin, Nails). The fungi, collectively called "dermatophytes" are alike in their physiology, morphology and pathogenicity. The three genera are Microsporum, Trichophyton and Epidermophyton. In naming, clinical manifestations due to dermatophytes, 'tinea' precedes the Latin name for the involved site eg: *Tinea corporis* is a dermatophyte infection of the skin of the trunk and extremities

excluding the hair, nails, palms, soles and groin. Infection spreads centrifugally from the point of skin invasion, with central clearing of the fungus, typically resulting in annular lesions of varying sizes. Dermatophyte infections are classified according to the affected body site, Such *Tinea capitis* (scalp), *Tinea barbe* (beard area), *Tinea corporis* (skin other than beard area, scalp, groin, hands or feet), *Tinea cruris* (groin, perineum areas), *Tinea pedis* (Feet), *Tinea Mannum*(Hands) and *Tinea ungum* (nails).¹⁴

Charmadala

The doshas involved are Kapha pitta, signs and symptoms will be Raktam (redness), Kandu (itching sensation), sphota (pustules) over the body, Ruja (painful pustules) and Samsparshasahamuchyathe (tenderness over the pustules)¹⁵. Charmadala can be compared to impetigo. It is common, highly contagious, superficial skin infection that primarily affects children. The condition presents in both non-bullous and bullous forms. The primary pathogens in non-bullous and bullous impetigo are *staphylococcus aureus* and less commonly group A β - *hemolytic streptococcus*. Methicillin-resistant *s aureus* (MRSA)¹⁶ and Gentamycin-resistant *staphylococcus aureus* strains have also been reported to cause impetigo¹⁷

Non-bullous impetigo: Early manifestation: Single 2-4mm erythematous macule that rapidly evolves into a short lived vesicle or pustule. Late manifestation: Superficial erosion with a typical honey colored yellow crust and rapid direct extension of infection to surrounding skin. Distributed on face and extremities may or may not associate with mild lymphadenopathy. Non bullous impetigo begins with a single erythematous macule that rapidly evolves into a vesicle or pustule and ruptures; the released serous contents then dry, leaving a crusted, honey-colored exudate over the erosion. Rapid spread follows by contiguous extension or to distal areas through inoculation of other wounds from scratching.

Bullous-impetigo: Early manifestation: Small vesicles enlarge into 1-2 cm superficial bullae. Late manifestation: Flaccid, transparent bullae measuring up to 5 cm in diameter with a collarets of scale, distributed on face, trunk, buttocks, perineum and extremities. Bullous impetigo usually consists of small or large, superficial, fragile bullae, often these quickly appear, spontaneously rupture, and drain so that only the remnants, or collarets, are seen at the time of presentation.¹⁸

Paama

The doshas involved are Kapha pitta, signs and symptoms are characterized by eruptions which are white, reddish or blackish brown in colour. The condition is prevailed with intense itching¹⁹. Paama can be compared with scabies. It is a worldwide problem and all ages, races and socio-economic groups are susceptible. Higher incidents occur with overcrowding, economic depression and in refugee camps. Scabies can be transmitted directly by close personal contact, sexual or indirectly via fomite transmission. The highly host specific eight-legged mite *sarcoptes scabiei* causes human scabies. Mites from animals are not a source of human infestation. Intense pruritus classically is accentuated at night and is exacerbated by a hot bath or shower. Localization of the pruritic papules in patients with scabies is classically in the webs of the fingers, flexor aspects of the wrists, extensor aspects of the elbows, peri-umbilical skin, buttocks, ankles, penis in males, and the peri-areolar region in females.²⁰

Sphota (or) Visphota

The doshas involved are Kapha pitta, signs and symptoms are sphota (several eruptions which are either white or reddish in appearance). Tanutwak (eruptions are specifically thin walled)²¹. Sphota can be compared to superficial folliculitis. It is a very common disorder and is characterized by peri-follicular pustules. Culture of pustular contents often fails to identify a bacterial pathogen, but of the infectious etiologies, *staphylococcus aureus* is the most common pathogen. Perifollicular pustules usually arise on an erythematous base and the pustules may be pierced by a hair. Slight itching and burning sensation may accompany, the scalp and extremities are common sites of involvement. Pseudofolliculitis results from beard or body hairs that become ingrown and is seen in individuals with highly curved and tough hairs. The resultant pustular eruption is not primarily an infection, but rather a foreign body inflammatory reaction.²²

Sataru

The doshas involved are Kapha pitta, signs and symptoms are several ulcerated patches which are red or blackish brown in colour. The patches are associated with burning sensation as well as pain²³. Sataru can be compared to *pyoderma gangrenosum*. It is an uncommon chronic, recurrent cutaneous ulcerative disease with a distinctive morphologic presentation. It can occur at any age but most commonly afflicts women between 20 to 50 years of age. Fifty percent of patients have underlying systemic diseases such as inflammatory bowel disease, arthritis or myeloproliferative disorders. Although the disease is idiopathic in 25-50% of patients, an underlying immunologic abnormality is currently forwarded, given its frequent association with systemic diseases that have a suspected autoimmune pathogenesis. The classic morphological clinical presentation is an ulcer. There are several variants with different clinical presentation. Cutaneous lesions are painful and most frequently occur on the lower extremities, especially the pre-tibial area, but they can occur anywhere, including on mucous membranes and peristomal sites. The number of ulcers varies from one to one dozen and sometimes they coalesce. *Pyoderma gangrenosum* is a primarily sterile inflammatory neutrophilic dermatosis. It is characterized by recurrent cutaneous ulcerations with mucopurulent or hemorrhagic exudate. These are very painful with undermined bluish borders and surrounding erythema. In many cases, it is associated with inflammatory bowel disease, rheumatic disorder or neoplasia. It occurs most commonly on pre-tibial area and has been reported on other sites of the body including breast, hand, trunk, head and neck, and peristomal skin. Extracutaneous manifestations include involvement of upper airway mucosa, eye, genital mucosa, sterile pulmonary neutrophilic infiltrates or spleen infiltrates, and neutrophilic myositis.²⁴

Vicharchika

The doshas involved are Kapha, signs and symptoms are Bahusraava (excessive discharge of eruptions) Shyavapidaka (eruptions are blackish brown and associated with itching sensation)²⁵. Vicharchika can be compared to Eczema²⁶ in particular stasis dermatitis (weeping Eczema). Eczema (or) Dermatitis, is a reaction pattern that presents with variable clinical and histological findings and is the final common expression for a number of disorders, including atopic dermatitis, allergic contact dermatitis, dyshidrotic eczema, nummular eczema, stasis dermatitis, Seborrheic dermatitis etc. Stasis dermatitis develops on the lower extremities secondary to venous incompetence and chronic oedema. Early findings in

stasis dermatitis include mild erythema and scaling associated with pruritus. The typical initial site of involvement is the medial aspect of the ankle, often over a distended vein. As the disorder progresses, the dermatitis progressively pigmented, due to chronic erythrocyte extravasations leading to cutaneous haemosiderin deposition. At time stasis dermatitis becomes acutely inflamed with crusting and exudates. Involved skin in stasis dermatitis may exhibit changes seen in other eczematous conditions. Severe, acute inflammation may result in exudative, weeping patches and plaques. Underlying fat necrosis (*lipodermatosclerosis*) may be exquisitely painful; these cases of deep, acute inflammation may be difficult to differentiate from cellulitis or erythema nodosum. In fact, stasis dermatitis is the most frequent condition for which patients are misdiagnosed as cellulitis.²⁷⁻²⁹

DISCUSSION

In Eka kusta, vata kapha doshas are involved. Dryness attributes to vata whereas scaling to kapha. In *Ictyosis Vulgaris* scaling of the body occurs extensively as described in Eka Kusta as “Mahavasthu”, “Mathsyasakulo pamam”, Eka Kusta is better compared with *Ichthyosis vulgaris*. The Thickness of skin in the Charma kusta is attributed to Kapha whereas the dryness attributes to vata. *Lichen simplex chronicus* is characterized by Lichenified, leathery flakes which is compared to “Hasthi Charma” of Charma kusta. The shyavavarna, parushatva, Khinakharasparsha is attributed to Vata dosha whereas kandu is due to kapha dosha in kitima kusta. The erythema can be compared to shyama varna, parushatva, Khina khara sparsha is alike to thickening of psoriasis. The Nodular growth of Alasaka is attributed to vata and Kandu (Itching) is attributed to Kapha. The Nodular growths, intense itching and redness of Alasaka can be better matched with clinical manifestations of Prurigo *Nodularis*. The itching sensation is attributed to Kapha Dosha, papules and erythema is attributed to pitta dosha in dadru. The clinical features resemble to that of Tinea infections such as itching, circular elevated patches and erythema. In Charnadala itching sensation and pustules are attributed to kapha dosha whereas redness, tenderness is attributed to pitta dosha. The symptoms like pustules, erythema is alike both in charmadala and impetigo. The reddish eruptions are attributed to pitta dosha and kandu to the kapha dosha in paama. The symptoms like intense itching, erythematous papules of Paama and scabies are alike. In visphota the reddish pustules attribute pitta whereas pruritus is attributed to kapha. The reddish pustules which are thin walled are the clinical manifestations found common in visphota and superficial folliculitis. The burning sensation of the ulcerated patches and redness is attributed to pitta dosha whereas extensiveness of ulcer is guarded by kapha in sataru. The clinical manifestations of sataru are multiple ulcerated patches which are same as that of *Pyoderma gangrenosum*. The exudates, itching sensation are attributed to Kapha dosha in vicharchika. The symptoms of vicharchika include excessive exudation with blackish brown eruptions which resemble the signs and symptoms of Stasis dermatitis (weeping Eczema). Kusta is a broad term described by Charaka for various skin manifestations. The probable basis of classification of Kustas into Maha and Kshudra Kusta is the severity and chronicity of the disease that are more pronounced in Maha Kustas. It is also known that the occurrence of Maha Kustas is more than the Kshudra Kustas. Though Kshudra Kustas are described to be minor skin diseases having less symptomatology some skin manifestations like Sataru (*Pyoderma Gangrenosum*) have grievous pathology. Some of the skin disorders described in Kshudra Kustas are secondary skin manifestations like eczema and *pyoderma gangrenosum*.

Table 1: Kshudra Kustas according to the Charaka Samhita and the probable modern comparison

S.No	Name of Kshudra Kusta	Modern Correlation
1	Eka Kusta	Ictyosis Vulgaris
2	Charmakhya Kusta	Lichen Simplex Chronicus
3	Kitima Kusta	Psoriasis
4	Vipadika Kusta	Cracked feet
5.	Alasaka Kusta	Prurigo Nodularis
6	Dadru Kusta	Tinea Infection
7	Charmadala Kusta	Impetigo
8	Paama Kusta	Scabies
9	Visphota Kusta	Folliculitis
10	Sataru Kusta	<i>Pyoderma gangrenosum</i>
11	Vicharchika Kusta	Eczema

Fig 1 Eka Kusta(Ictyosis vulgaris)

**Fig 2 Charma kusta
(Lichen simplex chronicus)**

**Fig-3 Kitibha Kusta
(Psoriasis Showing Desquamation
and Auspitz's sign)**

Fig-4 Vipadika(Craked feet)

Fig-5 Alasaka kusta(Prurigo nodularis)

Fig-6 Dadru kusta(Tinea corporis)

Fig-7 Charmadala kusta(Bullous Impetigo)

Fig-8 Paama Kusta(Scabies)

Fig-9 Visphota (Folliculitis)

Fig 10 Sataru (Pyoderma gangrenosum)

Fig-11 Vicharchika (Eczema)

CONCLUSION

By critical evaluation of the Charaka's kshudra kusta and modern literature, Ekakusta can be compared to *Ichthyosis vulgaris*, Charmakhya kusta with *lichen simplex chronicus*,

Kitima with psoriasis, Vipadika with cracked feet, Alasaka with *Prurigo nodularis*, Dadru kusta with *Tinea* infections, Charmadala with impetigo, Paama with scabies, Visphota with Folliculitis, Sataru with *Pyoderma gangrenosum* and Vicharchika with Eczema.

REFERENCES

1. Talekar Manisha, Mandal Sisir Kumar, Sharma Reetu. Role of viruddha ahara in kusta (skin disease): An epidemiological study. Int. J. Res. Ayurveda Pharm. 2015;6(3):335-341 <http://dx.doi.org/10.7897/2277-4343.06366>
2. Acharya Agnivesa, Charaka samhitha, edited by Sharma RK, Bhagawan D, Vol II, 7th edition, Choukamba Sanskrit series, Varanasi, Nidana sthana, Chakrapani commentary on Chapter 5 verse 4. 2002. p.68-69
3. Acharya Sushruta, Sushruta samhitha, edited by Sharma PV, Vol I, 3rd edition, Chaukhamba orientalia, Varanasi, Nidanasthana, Dalhana commentary on Chapter 5 verse 5. 2007. p.495
4. Acharya Agnivesa, Charaka samhitha, edited by Sharma RK, Bhagawan D, Vol III, 4th edition, Choukamba Sanskrit series, Varanasi, Chikitsa sthana, on Chapter 7 verse 21. 2000. p.325
5. Jaean LB, Joseph LJ, Ronald PR, Dermatolgy, First Edition, Mosby elsvier, Spain, section-9, Chapter -57.
6. Acharya Agnivesa, Charaka samhitha, edited by Sharma RK, Bhagawan D, Vol III, 4th edition, Choukamba Sanskrit series, Varanasi, Chikitsa sthana, on Chapter 7 verse 21. 2000. p.325
7. Katambas AD, Lotti TM, Dessinoti C, Angelo M, European hand book of dermatological treatments, Third edition, Springer Heidelberg international, Newyork, Chapter 44 2015 p.431-434 <https://books.google.co.in/books>
8. Acharya Agnivesa, Charaka samhitha, edited by Sharma RK, Bhagawan D, Vol III, 4th edition, Choukamba Sanskrit series, Varanasi, Chikitsa sthana, on Chapter 7 verse 22. 2000. p.325
9. RGB Langely, GG Kruger, CEM Griffin, Psoriasis Epidemiology, Clinical features and quality of life, Annuals of rheumatic diseases, 2005;64:18-23.
10. Acharya Agnivesa, Charaka samhitha, edited by Sharma RK, Bhagawan D, Vol III, 4th edition, Choukamba Sanskrit series, Varanasi, Chikitsa sthana, on Chapter 7 verse 22. 2000. p.325
11. Acharya Agnivesa, Charaka samhitha, edited by Sharma RK, Bhagawan D, Vol III, 4th edition, Choukamba Sanskrit series, Varanasi, Chikitsa sthana, on Chapter 7 verse 23. 2000. p.325
12. Micheal R, Stephen S, Prurigo nodularis a review, Australian journal of Dermatology, 2005 December, Vol.46(4): Pg.211-20 available from <http://www.mediskin.cn> <http://dx.doi.org/10.1111/j.1440-0960.2005.00187.x>
13. Acharya Agnivesa, Charaka samhitha, edited by Sharma RK, Bhagawan D, Vol III, 4th edition, Choukamba Sanskrit series, Varanasi, Chikitsa sthana, on Chapter 7 verse 23. 2000. p.325
14. Saral Noble, Robert C Forbes, Pamela L Stamm, Diagnosis and management of common tinea infections, 1998 July, American family physician, Vol.58(1) p.163-174. <http://www.aafp.org/afp/1998/0701>
15. Acharya Agnivesa, Charaka samhitha, edited by Sharma RK, Bhagawan D, Vol III, 4th edition, Choukamba Sanskrit series, Varanasi, Chikitsa sthana, on Chapter 7 verse 24. 2000. p.326
16. Moran GJ, Amii RN, Abrahamian FM, Talan DA. Methicillin-resistant *Staphylococcus aureus* in community-acquired skin infections. Emerg Infect Dis. 2005;11(6):928-930. <http://dx.doi.org/10.3201/eid1106.040641>
17. Kuniyuki S, Nakano K, Maekawa N, Suzuki S. Topical antibiotic treatment of impetigo with tetracycline. J Dermatol. 2005;32(10):788-792. <http://dx.doi.org/10.1111/j.1346-8138.2005.tb00846.x>
18. Lisa s lewis, Russel w steele. Impetigo clinical presentation, sep 2014. <http://emedicine.medscape.com/article/965254-overview>
19. Acharya Agnivesa, Charaka samhitha, edited by Sharma RK, Bhagawan D, Vol III, 4th edition, Choukamba Sanskrit series, Varanasi, Chikitsa sthana, on Chapter 7 verse 25. 2000. p.326

20. Shelly F Walton, Bart J Currie. Problems in diagnosing scabies, A global disease in human and animal populations, Clinical microbiology reviews. 2007;20(2):268-279. <http://dx.doi.org/10.1128/CMR.00042-06>
21. Acharya Agnivesa, Charaka samhitha, edited by Sharma RK, Bhagawan D, Vol III, 4th edition, Choukamba Sanskrit series, Varanasi, Chikitsa sthana, on Chapter 7 verse 25.2000. p.326
22. Thappa D M. Text book of Dermatology venerology and Leprology, Third edition, Elsevier, India, Chapter 6 2009, p.48. <https://books.google.co.in>
23. Acharya Agnivesa, Charaka samhitha, edited by Sharma RK, Bhagawan D, Vol III, 4th edition, Choukamba Sanskrit series, Varanasi, Chikitsa sthana, on Chapter 7 verse 26.2000. p.326
24. Uwe wollina. Pyoderma gargarinosum-a review, Orphanet journal of rare diseases, April 2007, Vol 2:19. <http://www.ijrd.com/content/2/1/19> <http://dx.doi.org/10.1186/1750-1172-2-19>
25. Acharya Agnivesa, Charaka samhitha, edited by Sharma RK, Bhagawan D, Vol III, 4th edition, Choukamba Sanskrit series, Varanasi, Chikitsa sthana, on Chapter 7 verse 26.2000. p.326.
26. Mahamad Yunus S., R. K. Hibare, V. S. Kotrannavar, Mohasin. Kadegaon, Rashmi V. Efficacy of Arkapatra taila and Aragvadadi kwatha in the management of Vicharchika with special reference to Eczema. Int. J. Res. Ayurveda Pharm. 2014;5(4):444-446 <http://dx.doi.org/10.7897/2277-4343.05491>
27. Huang TM, Lee JY. Lipodermatosclerosis a clinicopathologic study of 17 cases and differential diagnosis from erythema nodosum. J Cutan Pathol. 2009;36(4):453-60. <http://dx.doi.org/10.1111/j.1600-0560.2008.01049.x>
28. David CV, Chira S, Eells SJ, Ladrikan M, Papier A, Miller LG. Diagnostic accuracy in patients admitted to hospitals with cellulitis. Dermatol Online J. March 2011;17(3):1.
29. Keller EC, Tomecki KJ, Chadi Alraies M. Distinguishing cellulitis from its mimics. Cleve Clin J Med. 2012;79(8):547-552. <http://dx.doi.org/10.3949/ccjm.79a.11121>

Cite this article as:

R S Chalapathi, T Maheswar, V Subhose, R K Swamy. Critical evaluation of kshudra kustas of Charaka samhitha: an Ayurvedic treatise in light of modern medicine. Int. J. Res. Ayurveda Pharm. 2016;7(1):13-19 <http://dx.doi.org/10.7897/2277-4343.0713>

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

Disclaimer: IJRAP is solely owned by Moksha Publishing House - A non-profit publishing house, dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. IJRAP cannot accept any responsibility or liability for the site content and articles published. The views expressed in articles by our contributing authors are not necessarily those of IJRAP editor or editorial board members.