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Review Article

CHARMADALA: A CONTRIBUTION OF KASHYAPA IN CHILDHOOD SKIN DISEASE

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ABSTRACT

Kaumarbhritya (Ayurvedic pediatrics) one of the eight branches of Ayurveda is dedicated to child care. Acharya Kashyapa, author of the treatise Kashyapa Samhita or Vriddha Jivaka Tantra, which is considered a classical reference book on Ayurveda especially in the fields of Ayurvedic pediatrics. Kashyapa describes Charmadala, is the one of peculiar disease of childhood, affecting mostly in Kshirapa (milk is main diet) and kshirannada (milk and cereals both). Charmavadarana (Cracking of skin) is the main feature of disease. The main objective of this article to emphasize the etiopathogenesis, clinical feature with specific etiology and treatment of this disease.

Keywords: Charmadala, Charmavadarana, Atopic Dermatitis, Micronutrient.

INTRODUCTION

The neonate's skin is characterized by being sensitive, thin and fragile. Moreover, the skin of new born, have a thinner stratum corneum, reduced cohesion between the epidermis and dermis and a less effective skin barrier function.[1]

A newborn's skin will undergo a number of changes during the first month of life as it adapts to an extra-uterine environment. During this time period the epidermis and dermis is further developed and there is a noticeable change in the baby's skin pH surface and desquamation of the skin.[2, 3]In Ayurveda the development of skin follows the fertilization of Shukra & Shonita. In fetal stage (garbha) different layers of the skin are formed & this formation is caused by all the three doshas and particularly by Pitta. The formation of skin layers is just similar to the formation of layers, on the upper or outer surface of boiled milk. Just as the santanika formed in layers & gradually increase in thickness, all the layers formed in the developmental stage of the embryo of foetus join together to become the skin on the outer surface of the fully developed foetus[4]. The six layers of the Twaka are formed from the Mamsa Dhatu[5]or Rakta dhatu[6]. After the Paka of Rakta by its Agni, it gets dried up to form the skin, like the deposition of cream on the surface of boiling milk. There are six factors which are considered responsible in the formation of Garbha. Twaka is formed & nourished by Matruja Bhava[7] and in Shaddhatvatmaka bhava twaka is considered as parthiv.[8, 1]

Etiological factors of this disease according to Kashyapa

Charmadala affects only to the children, who are Kshirapa or Kshirannada, due to consumption of vitiated milk, its incidence are very less in children, whose diet is cereals (Annada). Because the skin, bones and dhatus are more stable and physically strong due to performing various exercises. Due to unstable dhatus, Kshirapa and kshirannada are deficient in Bala (immunity) therefore more susceptible for this disease.

Other etiological factors of this disease are-

- Putting on cloths and keeping in lap for long time.
- Due to effect of exposure to hot air strong sunlight, application of poultice and due to improper cleaning of baby urine and stool.
- Excessive sweating.
- Anointment and applying much pressure by unclean hand
- Unstable dhatus
- Hereditary (Kulaja).

It affects neck, hand, foot, groin, back and joint.[9]

It may be very well explained that why this disease is more common in Kshirapa or Kshirannada. Among these some babies are more sensitive to milk protein. Annada and older children's have low incidence because most of the children after attaining the age of two year develop satmaya (acceptability) for various milk proteins and food allergens.

Atopic Dermatitis

Atopic dermatitis (AD) or eczema is a common chronic or relapsing dermatitis characterized by severe pruritus, occurring primarily in infants and children's[10]. It affects 5-15% of school children and 2-10% of adults[11-12]. Atopic dermatitis is notorious for its recalcitrance and tendency to chronic recurrence and can lead to significant morbidity, social isolation and emotional stress.

There is increasing evidence that the prevalence of atopic dermatitis in children has increased over the past 30

years[13,14], although the reasons for this increase are unknown. The current prevalence is estimated to be 10.0% to 15.6%. Changes in environmental pollutants, breastfeeding pattern, increased awareness, and urbanization and better case detection techniques are some of the reasons cited for this change[15, 16, 20].

Etiopathogenesis

The disease arises as a result of a complex interplay between various genetic, immunological and environmental factors[15,17]. Atopic dermatitis clearly has a hereditary basis [15,14,18]. The eczema is triggered or exacerbated by interactions between a genetic predisposition and environ-mental factors[14, 18]. The environmental factors include (*a*) physical factors like sweating, climate, warm surroundings, detergents and soap, synthetic or woollen fabrics, cigarette smoke, (*b*) psychological factors, (*c*) food items (including tomato, orange and citrus fruits, juice from meat, fish) (*d*) allergens such as house dust mite, animal hair, pollen, plants and others such as *Staphylococcus aureus* and release of exotoxins (superantigens) and saliva in small children[18,20]

Clinical Features

Pruritus is considered to be the primary phenomenon. However, AD can also begin in the first three months of life,Xerosis or dryness of the skin can be found shortly after birth and can act as the inciting factor for AD. Lesions are classified as acute, sub-acute or chronic. Acute AD is characterized by pruritic papules and papulovesicles with serous exudates on a background of erythema. Sub-acute eczema is characterized by either grouped or scattered scaly, erythematous papules or plaques over an erythematous skin. Chronic AD includes thickening of the skin with lichenification (increased skin markings), secondary to scratching and rubbing. [19-20]

Table 1: Comparison of Charmadala with infantile atopic dermatitis [21]

Etiological factor and Clinical feature		Charmadala	Infantile Atopic Dermatitis
Age	Kshirapa and kshirannada	+	+
Etiological factor	milk and food allergy	+	+
	excessive wearing, anointment	+	+
	Hereditary	+	+
Clinical feature	Inflammation	+	+
	boils, itching and pain	+	+
	cracking of skin	+	+

The above table clearly indicates the close resemblance of Charmadala with Infantile Atopic Dermatitis.
Kashyapa has described four type of Charmadala on the basis of Dosha- Vatika, Paittika, Sleshmika and Sannipatika.

Table 2: Specific etiological factor and clinical feature of Charmadala according to their dosha[22]

Type	Etiological factor in Dhatri	Clinical feature in child
Vatika	Ruksh ahara- vihara, anonintment, fast, too much walking and exercise by mother.	Hard bluish spot with boils, oozing of foamy liquid, tingling sensation. Loose stool of various colors, kampana, mukh sosha and romaharsh.
Paittka	Usna, amla lavna, katu and vidahi diet, ahdyasana and anger.	The spots may be reddish, bluish, burn like and yellowish with foul smelling. Loose stool grey or yellow colored, Gudapaka, Daha, vomiting yellowish face.
Sleshmika	Use of article which are guru, amla, lavana, madhura, abhisayandi and excessive sleeping in the day.	The spots are white colored, equal to sarsarpa, less in quantity and less pain and burning. Loose stool whitish and vomiting
Sannipatika	All the factors responsible for vitiating doshas.	Spots are various colors, very foul smelling secretions, dyspnea, excessive weeping, refusal to suck. Loose stool reddish or bluish.

Charmadala becomes more complicated and difficult to treat if it is associated with vomiting, thrust, distension edema, hiccough, and dyspnea.[23]
The above conditions appear due to secondary bacterial infection in the skin lesion. The associated secondary GI infection may cause loose stools, vomiting and ultimately dehydration.
Inspite of atopic dermatitis the symptoms of Charmadala may also revels with micronutrient & Vitamins deficiencies.

Table 3: Micronutrient & vitamins deficiencies where clinical features of Charmadala may be correlated

Micronutrient Deficiency	Skin Symptoms
Vitamin A	Rough dry scaly skin; bumpy skin; increased susceptibility to colds and viral infections
Vitamin B2	Dermatitis; peeling of skin around the nose; cracks or sores at corners of mouth or on lips.
Vitamin B3	Dry, cracked and scaly skin; pellagra.
Vitamin B6	Skin disorders such as eczema or dermatitis; cracks or sores on lips or mouth.
Vitamin C	Easy bruising and small spots of bleeding under the skin (which appear as pink spots on the skin); dry brittle hair; dry rough scaly skin.
Biotin	Brittle nails and hair; one of the most obvious signs of insufficient biotin is thinning of hair which may lead to total hair loss (alopecia); dry scaly scalp or .face, especially in infants (cradle crap).
Folic acid	Skin disorders like seborrheic dermatitis and vitiligo (loss of pigment leading to white patches on the skin).
Inositol	hair loss or alopecia or patchy baldness; memory loss; eczema;
PABA	Weeping or moist eczema; premature wrinkling of skin; premature grey hair.
Zinc	Acrodermatitis enteropathica

(Source-http://www.healthsupplementsnutritionalguide.com/vitamin-deficiency-symptoms.html)

Treatment

Kashyapa opines that this disease should be treated very carefully because there are more chances of recurrence.[24]

Since no specific treatment has been described for the affected child, except purification of breast milk of Dhatri. It indicates that disease is self-limiting, therefore its treatment is not required. Purification of breast milk is done only to prevent its further extension.

For purifying the breast milk, Dhatri should be given Shodhana therapy according to vitiation of dosha. For elimination of vata dosha Snehana and Swedana are performed followed by ghrita medicated with Nilika or Trivritta. Lepa, parisheka and abhyanga of various drugs i.e. Rasna, madhuyasti, somaraji and guduchi is advised to treat vatika Charmadala.

Dhatri should be induced Vamna and Virechna after performing snehana for pitta vitiated Charmadala. Vomiting is induced by administering decoction of Nimba and decoction of Pippli with lavna. Purgation may be induced by offering decoction of Draksha, juice of sugar cane and Haritiki, juice of Draksha and Amalaki and fruit pulp of Amaltasha with milk followed by samsarjana karma.

In Sleshmika Charmadala Vitited kapaha is eliminated by inducing emesis on administering solution of Pippali in lukewarm water, followed by sirovirechna.

Modern Treatment for Atopic Dermatitis

Atopic dermatitis follows a highly variable course with exacerbations and remissions. About 95% of children with AD remit around puberty, but relapses may occur and the disease may persist well into adulthood. With severe AD, in 72% the disease persists in adult life[25]. Risk factors regarded to affect the disease prognosis include severe dermatitis in childhood, family history of AD, associated asthma or allergic rhinitis, female sex and onset before 1 year of age[26].

The treatment of AD requires a systematic, multifaceted approach that incorporates skin hydration, topical anti-inflammatory therapy, identification and elimination of flare factors, and, if necessary, systemic therapy. Breast-feeding or a feeding with a hypoallergenic hydrolyzed formula may be beneficial. Probiotics may also reduce the incidence or severity of AD, but this possibility is unproven. If an infant with AD is diagnosed with food allergy, the breast feeding mother will need to eliminate the implicated food allergen from her diet. Identification and elimination of triggering factors is the mainstay for prevention of flares as well as for the long-term treatment of AD.[27]

CONCLUSION

The knowledge of health and ill health of skin in 6th century BC by Kashyapa is very minute, Acharya explained all the specific etiopathogenesis and clinical feature which is very similar to Atopic dermatitis and micronutrient deficiency where Charmavadarana (Cracking of skin) is the main feature. Kashyapa beautifully described the relation of Charmadala with milk allergy, improper cleaning of child and hereditary nature of disease. Kashyapa also emphasized the role of Dhatri in etiology and management of Charmadala. It is an effort of authors to deliberate in a new way about the diagnosis and management of disease.

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