

TITLE- A Review Article on *Ahiputana* (Diaper Rash) In Ayurveda.

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ABSTRACT – Diaper rash is common problem in the pediatric OPD. Prevalence of diaper rash has been variably reported from 7-35% in the first one year of life. Most cases occur between 9 - 12 month of age. The condition is referred to as *Ahiputana*, *Gudakuttaka*, *Mathrukadosha*, *Prishtaru* and *Anamaka* in ayurvedic samhita. Ayurveda clearly state that main *hetu* of *Ahiputana* is *stanyadushti* (vitiated breast milk) and *Asuchitwa* (Unhygienic condition). The disease is characterized by *Kandu* (Irritability due to itching), *Raga* (Redness around perianal region), *Daha* (Burning sensation), *Sphota* (Blister/Vesicle), *Strava* (Discharge), *Ekibhuta vrana* (Fused Ulcer). This condition is comorbid with *atisara-grahani rogas*, *putana graha*, *ksheeralasaka*, *charamadala*, etc. The treatment involves avoidance of causes, *stanyasodhana* (purification of breast milk) and large number of formulation for local application like *lepa*, *churna*, *ghruta*, *tail* and *kwath*. The condition has close resemblance with diaper rash or diaper dermatitis in modern medicine. A deeper knowledge of *Ahiputana* and diaper rash will definitely pave way for development of better management guidelines which can give considerable relief to the infants and their caregivers. Hence a thorough review of *Ahiputana* and diaper rash was done and presented in this article.

KEYWORDS – *Ahiputana*, *Balaroga*, *Stanyadushti*, Diaper rash.

INTRODUCTION –

Ayurveda is the science of life and most effective ancient system of medicine. The objective of *Ayurveda* is to cure a disease and maintain the state of health in healthy. *Ashtanga* (Eight branches) are specializations of ayurveda. *Kaumarbhritya* (*Balroga*) is one of the most

important branch of ayurveda that deals with mother and child relationship and their health, it also deals with *Kumarabharana*, *Dhatri*, *Kshirdosha*, *Dushta Stanya*, *Grahadosha* and their treatment¹.

Childhood is initiation of life. To become healthy individuals, childhood must be provided careful attention. But of which neonates, infants, and early childhood are prone to get sick due to delicate skin and less immunity power.

Diaper rash is a ubiquitous problem in the pediatric OPD. Prevalence of diaper rash has been variably reported from 7-35% in the first one year of life. Most cases occur between 9 -12 month of age². The references of diaper rash in *Ayurveda* can be seen in *Susruta samhita* as *Ahiputana kshudraroga*³ and in *Ashtanga Hridaya* by a variety of names like *Gudakuttaka*, *Mathrukadosha*, *Ahipoothana*, *Prishtaru* and *Anamaka*⁴. Which describe the different traits of the disease. A deeper knowledge of *ahiputana* and diaper rash will definitely pave way for development of better management guidelines which can give considerable relief to the infants and their caregivers. Hence a thorough review of *ahiputana* and diaper rash was done and presented in this paper.

AIM AND OBJECTIVES – To study the *Ahiputana vyadhi* according to different text of Ayurveda literature and diaper rash mention in text of modern medicine.

MATERIAL AND METHODS –Classical text of Ayurveda and modern text including media, internet are used in this study.

ETYMOLOGY OF AHIPUTANA AND ITS SYNONYMS⁴ -

- 1) *Ahiputana* in sanskrit means ‘sores on the hinder part of the body’. *Acharya Indu* has related the disease *ahiputana* to ‘*putana-graha*’ (diarrhoeal disease associated with sepsisin infants).
- 2) *Gudakuttaka* means ‘that which cuts the anal region.’(*kuttana*= cut).
- 3) *Mathrukadosha* means ‘a defect which has maternal cause’ or ‘that which comes from the mother’; (*matruka*= belonging to the mother; *dosha* =defect). This indicates that the disease is either due to improper care from the mother or due to vitiated breast milk which are said to cause the disease.
- 4) *Prishtaru* (*arus*= sore and *prishta*= back) means sore on back.
- 5) *Anamaka* means ‘anonymous’, ‘nameless’ or ‘infamous.

CAUSATIVE FACTOR OF *AHIPUTANA*^{4, 5, 6} –

1. ***Shakrunmutra Samayukta/ Maloplepat/ Malasya Akshalanen-*** Unhygienic condition in which *Mala, Mutra* of child is not clean properly and regularly by mother, it gets attached to skin around *Gudapradesha*.
2. ***Sweda*** - The *drava* property in *Sweda* causes wetness to perianal skin.
3. ***Shishor Bhavet Sweenasya Awamanasya*** - After bathing the child, if the child is not cleaned or soaked properly, it causes wetness of perianal region.
4. ***Dushta Stanya Pana-*** According to *Acharya Bhoja Dushta stanya pana* is *hetu* of *ahiputana* and *vatadi dosha* are the causative factors for *Stanya Dushti*. *Chikitsa* given to *Dhatri* for *Stanya Shodhana*, it is found that the drugs used for *Stanyashodhana* are *Kaphapittaghna* hence we can conclude that *Kapha-pittaj Stanya Dushti* is the causative factor.

Table No. 1 – Causative factor of *Ahiputana*

Causative factor	<i>Sushruta</i>	<i>Vagbhata</i>	<i>Bhoj</i>
<i>Dushta Stanyapana</i>	-	-	+
<i>Malasya Adhavana</i>	+	+	+
<i>Shakruna Mutra Samayukte</i>	+	-	-
<i>Adhavate- Apane</i>	+	-	-
<i>Sweda</i>	+	+	-
<i>Swenasya-Avamanasya</i>	+	-	-

DOSHAS AND DHATU INVOLVED IN AHIPUTANA**Dosha –**

- *rakta and kapha* as per *sushruta*
- *kapha and pitta* as per *Vagbhata*

Dhatu – *twak dhatu* which represent *rasa dhatu*.

Stana – *guda pradesh*

Marga – *bahya marga*

PATHOGENESIS OF AHIPUTANA - Due to lack of proper cleansing of anal region after passage of stools and lack of bathing of a sweating child, smearing of urine, faeces and sweat over anal region occurs and *utkleda*⁷ (wetting or moistening) by *sweda* and *mala* occurs which cause *rakta* and *kapha* vitiation of the skin. Itching develops in the anal region from vitiation of *rakta* (vitiating blood) and *kaphadosha*. Due to vitiation of *dosha*, primarily *kandu* or pruritus of perianal skin occurs. *Kanduyana* or scratching results in ulceration and quick eruption of *sphota/pitaka* (papules and pustules) along with *srava* (discharge). The eruptions lead to *Ekibhuta vrana* ulceration or fused ulcer which blend or coalesce to form a horrible and dreadful large rash which is called *ahiputana*. It is also said to be *ghora* or severe with *bhuri-upadrava* (numerous complications).

PRODROMES OF AHIPUTANA - Prodromes of *Ahiputana* are not described in text.

CLINICAL FEATURES OF AHIPUTANA^{8,9,10} -

- 1) *Kandu* (pruritus in and around *guda* or anal region)/ *kanduyana* (intense itching)
- 2) *Daha* (burning sensation)
- 3) *Ruja* (pain)
- 4) *Pidika* (Skin lesions)
- 5) *Shipram Sphotam* (Blister)
- 6) *Strava* (Discharge)
- 7) *Ekibhuta vrana* (Fused ulcer)
- 8) *Tamra varna* (Redness around perianal region)

Table No. 2 - Symptoms of *Ahiputana*

Symptoms	<i>Sushruta</i>	<i>Vagbhata</i>	<i>Bhoj</i>
<i>Kandu</i>	+	+	+
<i>Daha</i>	+	+	+
<i>Ruja</i>	+	+	+
<i>Pidika</i>	+	-	+
Tamravrana	-	+	-
Strava	+	-	-
Sphota	+	-	-
Ekibhuta Vrana	+	-	-

TYPES OF *AHIPUTANA*¹¹ - Specific types of *ahiputana* are not mentioned by Vagbhata and Susruta, but Bhoja's opinion of '*yathadosham sudarunam*' points to categorization of *ahiputana* based on the *doshas* involved and its severity. This indicates the involvement of all *doshas* and the necessity to understand the presence of each dosha and treat accordingly. According to the *dosha* which appears predominant in the disease, it may be considered as *kapha* predominant, *pitta* predominant, *vata* predominant or *dwidosha* (two *doshas*) or *sannipatika* (three *doshas*). The severity also may vary according to *dosha* involved- *pitta* causing acute and severe inflammation, *kapha* causing intense pruritus and chronic inflammation, *vata* causing severe pain, etc.

COMORBID CONDITION AND DIFFERENTIAL DIAGNOSIS¹² – *Ahiputana* may be comorbid with *atisara* (diarrhea) and *putana graha* (diarrhoeal disease associated with sepsis), *grahani roga* (malabsorption syndromes), *kushta* (skin diseases), *chamada* (atopic dermatitis or eczema in children), *ksheeralasaka* (disease comparable with cow's milk allergy or infectious diarrhea), etc. which should be differentiated by careful history taking and diagnosis.

COMPLICATION – Complication of *ahiputana* are not described in ayurvedic samhita.

PROGNOSIS OF AHIPUTANA¹³ - In the perianal region *Samurchhana* of *Kapha-Pitta-Rakta* occurs. *Guda* being a *Marma Sthan* and *Mansa ghatit* makes this *vyadhi gambhir* but if proper treatment is given timely this *vyadhi* can be *Sadhya*. *Sushrutacharya* mentioned that *Ahiputana* (disease of child) is curable.

MANAGEMENT OF AHIPUTANA^{14, 15} –

A. Oral Treatment For Dhatri – *Stanyashodhana*

Stanyashodhana (purification of breast milk) is mentioned as the first step of treatment of *ahiputana*. *Pitta* and *kapha dosha shamaka dravya* are recommended for this purpose. A medicated ghee prepared from *patolapatra*, *triphala* and *rasanjana* for *pana* or intake which when drunk cures even the *krichrasadhya* (Difficult to cure) *ahiputana*.

The use of *stanya-sodhana* drugs not only cleanses breast milk but also allows it to serve as a means of delivering medication to the breastfed child. This process purifies the *rasa*, which is the first *dhatu* resulting from food digestion, in the mother (*dhatri*) and also purifies the *rasa* in the infant. As a result, this contributes to healthier skin in the child.

- *Acharya Sushruta* also told that *Stanya Shodhan Chikitsa* should be given to *Dhatri*. *Patol*, *Triphala* and *Rasanjana Siddha Ghruta* given to *Dhatri* for *Pana*, it makes *Kruchya Sadhya Ahiputana Sadhya*.
- *Acharya Vaghbata* said that *Kwatha* of *Pitta-kapha shamak dravya* given to *Dhatri* for *pana*.
- In *Bhaishajya Ratnavali Acharya* told that *Stanya Shodhan* of mother should be done by *Pittashamaka* and *Stanya shodhaka kashaya*. *Ghruta* medicated by *Karanja*, *Triphala* and *Tikta Dravya* can be given as orally. *Acharya* given prime importance to *Rasanjana* which can be given orally and for local application.
- *Ashtanga Sangraha* mentions the use of *tarkshya antarapanaka* for *anamaka*, *sthoulya*, *pittasra*, *kandu*, *gandagalamaya*, *udaraatyunnati*, etc.^[31]

B. Topical treatment for Child –

Various external applications like *lepas*, powders for dusting and decoctions for washing are mentioned which have to be chosen according to the condition of the ulcer. Washing with decoctions are preferred when there is *srava* (discharge) where dusting may be counterproductive. Dusting may be suitable in *suddha-vrana* which is devoid of *doshas*. The

principles of *vranachikitsa* especially of *pitta vrana* is applicable in the management of *ahiputana*.

- *Swetachandana* is advised to be used with honey and *tarkshyasaila* for external application on the ulcer by *Indu*.
- *Sushruta* has mentioned *badaritwaklepa* with *saindhava* and *amla* (*kanchika* etc.). The use of *amla* or acidic medium for application of drugs helps to regain the pH balance of the skin of the diaper area. *Kshalana* or washing with *triphala badari plakshatwak kashaya* or *triphala* alone may be done in severely oozing or *kapha pitta* predominant ulcers. This decoction is used for healing the ulcers (*vranaropana*).
- *Kaseesa*, *gorochana*, *tutha*, *manohwa*, *haritala* and *rasanjana* powdered and mixed with *amlakanchika* may be used for *lepa* or may be used as powder for dusting. This powder has strong antiseptic and antimicrobial properties. *Dalhana* explains that *amlakanchika* can be used for mixing *kaseesa*, etc. for external application.
- *Yashtimadhu* and *sankhachurna* or *asanatwakchurna* may be used for application and dusting.
- *Kapalatuthaja churna* for *avachurnana* (dusting) may also be done. *Kapalachurna* mixed with *tuthachurna* or copper sulphate powder may be incinerated and used for dusting. *Dalhana* explains that *kapala* is *pakwamritbhandakhanda* or pieces of earthen vessels. It contains red ochre or *gairika* which is *kaphapittasamana* and *vranaropana*. *Tutha* or copper sulphate is antiseptic and antimicrobial.
- In severe redness and itching, *raktasrava* (bloodletting) is advised. Infant being tender, *jalouka avacharana* (leech therapy) is advised. *Jalouka* does not cause pain or complications related to *raktasrava* in infants. This reiterates the involvement of *raktadushti* in infant causing *ahiputana*.
- All *pittavranahara* treatments can also be judiciously applied for treating *ahiputana* in infants. *Durva taila*, *Panchavalkala taila*, *jatyadighrita* or *kera*, *kaseesadi taila*, *durvadi ghrita*, *sathadhouta ghrita*, *murivenna*, *panchavalkalakashaya*, *triphala kashaya*, etc can be applied considering *dosha* and *avastha* of the *vrana*. *Pradeha*, *parisheka*, *sarpipana*, *virechana* etc. are mentioned by *Acharya Charaka* in *pittavrana chikitsa*.

Ahiputana is equivalent to Diaper Rashes in modern science.

Modern Science – Diaper Rash

Etiology and Pathogenesis¹⁶ - The etiology of Diaper Rash is primarily non-infectious and multi-factorial. The main factors related to the cause of diaper rash are friction, hydration, urine and faeces, pH, micro-organisms, skin maturation, type of nappy and diet.

Friction - This is one of the biggest pre-disposing factors for diaper dermatitis due to the damage of the epidermal barrier caused by the constant friction of skin-to-skin or skin-to-diaper this breach of the epidermis increases the chance of penetration of micro-organisms into the deeper layers of the skin. The convex areas (buttocks, genitals, lower abdomen and upper thighs) of skin covered by the diaper are most at risk for friction.

Hydration - Moistness of the skin is caused by prolonged exposure to urine and faeces. This results in a compromised barrier, leading to increased susceptibility to invasion of organisms and irritants.

Urine and Faeces - Contained within urine and faeces are enzymes such as proteases and lipases, as well as bile salts which can cause an irritation to the skin and lead to a compromised stratum corneum, and thus an increase in skin permeability.

pH - Babies skin has a higher absorbing capacity in comparison to adults, leading to higher hydration. This results in a neutral pH (7), leaving the skin vulnerable for penetration and injury.

Pathogenesis - The irritants and micro-organisms found in urine, faeces and soap results in a disruption of the skin barrier when in contact with each other for extended periods of time. This in turn results in a disruption of the lipid bilayer of the epidermis as well as cytokine release. The overall effect is inflammation, loss of cohesion, desquamation and an increase in trans-epidermal water loss, due to the activation of mast cells, phagocytes and T cells. Due to the compromised barrier, irritants can then enter the epidermis more freely, which stimulates a further release of cytokines and a structural change in keratinocytes, which gives the clinical presentation of irritant diaper dermatitis. If these irritants or micro-organisms are not removed or treated, the process will continue and amplify making the dermatitis progressively worse, and secondly leading to further complications such as sepsis and severe trans-epidermal water loss.

Clinical Features¹⁷ - Diaper rash predominantly affects the convex surfaces in closest contact with wet or soiled diapers. Skin becomes erythematous and scaly with papulovesicular or bullous lesions, fissures and erosions. Eruptions occur in patches or become confluent. There is marked discomfort due to intense inflammation. Secondary bacterial or fungal infections may occur. Intertriginous areas are spared. Buttocks, genitalia, lower abdomen and upper thighs are severely affected. In chronic forms, scaling with glazed erythema may be seen. Scaling is noticeable especially in healing stages. Behavioral changes such as increased crying and agitation and changes in eating and sleeping patterns indicate emotional distress.

Treatment¹⁸ – Once the diaper rash occurred, treatment consists in exposing the affected area to warm, dry air during day time. At night Zinc oxide cream applied locally. Superadded infection should also receive attention. If these measure prove ineffective, topical hydrocortisone (0.5 to 1%) is indicated provided that candidal infection has been excluded. Diaper care is of primary importance as regards prevention of this common problem.

Differential Diagnosis –

- Seborrhoeic dermatitis
- Atopic dermatitis
- Psoriasis
- Perianal streptococcal cellulitis
- Langerhans cell histiocytosis

Prevention -

- Nappies should be changed directly after every stool or urine passed.
- Time spent out of a nappy should be increased.
- Harsh chemicals or irritants such as: wet wipes, perfumes and soap should be avoided.
- Only tepid water and cotton wool must be used to clean the nappy area.
- Cloth diaper should be used instead of nappies available in market.

RESULT AND DISCUSSION –

The comparative analysis of *ahiputana* and diaper rash reveals significant parallels in their etiologies, pathogenesis, and clinical presentations, underscoring the relevance of integrating ayurvedic concepts with modern pediatric care.

Prevalence and Clinical Features

Diaper rash is a prevalent condition in infants, affecting 7-35% in the first year of life, with peak incidence between 9-12 months. *Ahiputana*, recognized in ayurvedic texts, shares similar symptoms, including pruritus, erythema, burning sensations, and ulceration. Both conditions primarily affect the perianal and genital areas, where moisture and irritants compromise skin integrity.

Causative Factors -

Both *ahiputana* and diaper rash are multifactorial. Key contributors include unhygienic practices, prolonged exposure to urine and feces, and skin friction. In *ahiputana*, additional factors like vitiated breast milk (*Stanyadushti*) further exacerbate the condition. Modern science identifies friction, hydration, and pH imbalances as primary irritants, highlighting the role of skin barrier disruption in both conditions.

Pathogenesis -

The pathogenesis of both conditions involves a breakdown of the skin barrier due to moisture and irritants, leading to inflammation and secondary infections. In *ahiputana*, the vitiation of *doshas* (*Kapha* and *Pitta*) plays a crucial role, while in diaper rash, the focus is on irritants and microbial activity. Understanding these mechanisms allows for targeted therapeutic interventions.

Management Strategies

Effective management of *Ahiputana* includes purification of breast milk, topical applications, and maintaining hygiene, which align with modern practices of prompt diaper changes and the use of barrier creams like zinc oxide. The *ayurvedic* approach emphasizes individualized treatment based on *dosha* predominance, which can complement contemporary methods for a holistic approach to care.

This integrative perspective provides a framework for addressing diaper rash more effectively, considering both ayurvedic and modern therapeutic options.

CONCLUSION –

Ahiputana can be compared to diaper rash, which arises from improper diapering practices, *Stanyadushti* of lactating mother, superinfections, and inadequate skin care in infants.

Understanding the causes, pathogenesis, management, and differential diagnoses of *ahiputana* in relation to diaper rash will equip *Kaumarabhrityakaras* to effectively apply various treatment options for *ahiputana*.

REFERENCES –

1. Shastri A. Sushruta Samhita Part I. Reprint 2017 ed. Varanasi: Chaukhamba Sanskrit Sansthan; 2017 p.6
2. Maya K.S, Dsouza A, Mand P. Article on diaper rash.NUJHS 2015;5(3):198
3. Sharma G. Madhav Nidan .5th ed. Lucknow: Tejkumar book depot; 2009 p.370
4. Tripathi B. Ashtanga Hridayam. Reprint 2017ed.Delhi: Chaukhamba Sanskrit Pratishthan;2017 p.897
5. Shastri A. Sushruta Samhita Part I. Reprint 2017 ed. Varanasi: Chaukhamba Sanskrit Sansthan; 2017 p.374
6. Shastri A. Sushruta Samhita Part I. Reprint 2012 ed. Varanasi: Chaukhamba Sanskrit Sansthan; 2012 p.376
7. e-Samhita/esusruta- National Institute of Indian Medical Heritage, <http://niimh.nic.in/ebooks/esushruta/?mod=read>
8. Narayan Ram A, Yadavji Trikamji A. Susruta Samhita, Bombay: Nirnayasagar Press; 1945 p.324
9. Vaidya, LC. Ashtanga Hridayam with Sarvangasundari Vyakhya. Varanasi: Motilal Banarasidas press; 1963 p.596
10. e-Samhita/esusruta- National Institute of Indian Medical Heritage, <http://niimh.nic.in/ebooks/esushruta/?mod=read>
11. e-Samhita/esusruta- National Institute of Indian Medical Heritage, <http://niimh.nic.in/ebooks/esushruta/?mod=read> 2020 July 27.
12. Chris Antony. Ksheeralasaka vis-à-vis Cow's Milk Allergy: A Critical Review.

- International Journal of Ayurveda and Pharma Research, 2018; 6(6): 38-46.
13. Shastri A. Sushruta Samhita Part I. Reprint 2012 ed. Varanasi: Chaukhamba Sanskrit Sansthan; 2012 p.119
 14. Vaidya, LC. Ashtanga Hridayam with Sarvangasundari Vyakhya, Varanasi, Motilal Banarasidas, 1963, 596p.
 15. e-Samhita/esusruta- National Institute of Indian Medical Heritage, <http://niimh.nic.in/ebooks/esushruta/?mod=read> 2020 july 27.
 16. Berg RW, Buckingham KW, Stewart RL. Etiologic factors in diaper dermatitis: the role of urine. *Pediatric Dermatology*, 1986; 3: 102
 17. Georgios N. Stamatias et al, Diaper Dermatitis: Etiology, Manifestations, Prevention, and Management, *Pediatric Dermatology*, January/February 2014; 31(1): 1-7.
 18. The Short Text Book of Pediatrics, Edited by Suraj Gupte, 12th edition, Published by Jaypee Brothers Medical Publishers (P) Ltd. Page: 709.