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Review Article

AN AYURVEDIC APPROACH OF *AHIPUTANA* WITH SPECIAL REFERENCE TO NAPKIN DERMATITIS: A LITERATURE REVIEW

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ABSTRACT

Ahiputana is mentioned in *Kshudraroga* in Ayurveda. A mother who neglects her child may cause them to suffer from a variety of illnesses, among them is *Ahiputana*. Diaper dermatitis, also known as napkin dermatitis, is one of the most prevalent skin ailments in young children and infants. Pediatric OPD frequently deals with *Ahiputana*, also known as napkin dermatitis. The *Guda* region (Napkin region) is home to several diseases that are described in the *Ayurved Samhita*, including *Ahiputana, Anamika, Sannirudhguda, Parikartika, Gudabhransh,* and *Gudakutta*. All *Samhita's explained Ahiputana* as a skin condition that primarily affects the *Pitta, Kapha,* and *Rakta doshas* and is typically observed in young children and newborns. Poor hygiene and sweat retention causes ammonia to build up, which causes blistering rashes in the skin of anal area. According to the *Ayurvedic Samhita*, one of the causes of *Ahiputana* is *stanyadushti*. Depending on the *Doshas* involved and the state of the rash, the treatment plan may include avoidance of causes, *Stanya shodhana*, local applications, decoctions for cleaning, powders for dusting, and other methods. A deeper understanding of napkin dermatitis and *Ahiputana* will undoubtedly pave the way for the creation of better management guidelines that can provide newborns with a great deal of relief. As a result, this paper presents a complete evaluation of *Ahiputana* and Napkin dermatitis.

INTRODUCTION

Ahiputana is one of the several skin conditions that are included under the category of *Kshudra roga* in the Ayurvedic texts. *Ahiputana* is a minor ailment that affects newborns and young children, according to *Acharya Sushruta*[1]. *Ahiputana* is synonymous with *Matruka dosha, Prushtharu, Gudkutta, and Anamika*[2]. *Ahiputana* is caused by *Dushta stanyapana* and *Asuchita* (unsanitary conditions), such as when a mother neglects to keep her child's perianal area dry and clean in a timely manner after each *Mala* and *Mutra visarjana*[3].

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Acharya vaghbhata states that *Rakta dhatu, Kapha dosha* become worsened and results in *Tamravarni vrana* at *Guda Pradesh*[4]. This is because of *Malopalepa* that occurs after urinating and defecating. A deeper understanding of napkin dermatitis and *Ahiputana* would undoubtedly pave the way for the creation of better management protocols that can significantly alleviate the condition in infants.

AIMS AND OBJECTIVES

1. To Study the *Ahiputana* according to *Ayurved Samhita.*
2. To study napkin dermatitis (also called diaper dermatitis) according to Ayurvedic aspect.

MATERIAL AND METHODS

This study uses both traditional Ayurvedic texts, such as the Samhita, and current texts, such as media, online resources, and standard journal publications.

Ahiputana

Synonyms of *Ahiputana*

1. *Ahiputana* denotes "sores on the lower portion of the body" in *Sanskrit*[5]. *Acharya Indu* has connected "*Putana-graha*" to the ailment known as *Ahiputana*.
2. "That which cuts or pierces the anal region" is *Gudakuttaka*. (*Kuttana*=cut)
3. *Matrukadosha*: A congenital condition caused by both *Matruka* and *Dosha*[7,8].
4. *Arus*[9]- Sore in *Prishta*[10] - back is "*Prishtaru"*.
5. *Anamika*([11]- "nameless," "anonymous," or "infamous." Hemorrhoids, often known as "*Durnama*," are also referred to by the same name.
6. *Gudakuttaka* [12] - Slashes the area of the anus.

Hetu* / Aetiology of *Ahiputana

According to *Sushruta* [13]

Dushta Stanya Pana, Malasya avadhan- *Vatadi dosha* are the causative factors for *Stanya dushti.* In *Ayurved samhita, Stanya shodhan* is advised to *Dhatri* as *chikitsa.* It is found that the drugs used for *Stanya shodhan* are *Kaphapittaghna* hence we can conclude that *Kapha pittaj stanya dushti* is the causative factor.

Shakrunmutra samayukta- Improper cleaning of *Mala, Mutra* of child gets attached to skin at perianal region. *Purisha* is the condensed part of *Mala*; it gets attached to skin which causes *Sthanik rakta kapha dushti*. Along with this, *Mutra* has *Kleda* property which causes wetness of skin and is responsible for *Kandu* i.e., itching at the perianal region.

Sweda - The *Drave* property in *Sweda* makes the skin wet (damp), which results in *Kandu* around the *Guda* area. Furthermore, since *Sweda* is *Pittasthan,* it is *Ushna* by nature. *Sanchay* of *Sweda* for prolonged time causes *Daha*.

Sweenasya Aswapyamanasya - Excessive sweating and improper cleaning of perianal region causes inflammation of the napkin area of skin.

According to *Ashtang Sangraha/Hridaya* [14]

Mala upalepa: *Purisha, Mutra* and *Sweda* together having *Drava guna* which causes *Kandu* around the perianal region.

***Sweda*:** Excessive sweating causes *Daha* at the perianal region.

According to *Bhoja*[15]

Dushta stanya pana - *Vatadi dosha* are the causative factors for *Stanya dushti*. The drugs used for *Stanya shodhana* are *Kaphapittaghna* hence we can conclude that *Kaphaj pittaj stanya dushti* is the causative factor for *Ahiputana*.

Malasya adhabanam - Improper cleaning of the perianal region of the children causes *Ahiputana*.

***Acharya Kasyapa*[16]**

He has said that the skin of the infant is tender and gets easily damaged by clothing, contact with faeces and urine, warm climate, sweating and lack of cleaning thereafter, rubbing with powders etc.

***Samprapti*/Pathogenesis of *Ahiputana*[17,18]**

Samprapti of *Ahiputana* is described in two different manners.

1) *Nijadosha - Dushtstanya sevan* and *sthanik Dushti*.
2) *Bahya Dushti*

Figure 1: *Samprapti* of *Ahiputana*

1. *Bahya/Sthanik dosha dushti*

↓

Unhygienic condition

↓

Prolonged *Maloplepa* of *Mala, Mutra, Sweda* around perianal region

↓

Sthanik Rakta-Kapha dushti

↓

Sthanik Pitta dushti

↓

Ahiputana

2. *Samprapti* due to *Nijadosha* and *Sthanik Dushti*

↓

Pitta-Kaphaj Stanyapana

↓

Pitta-Kapha dosha prakopa and *Rakta Dushti*

↓

Sthanik vaigunya around *Guda* region due to *Dosha* and *Rakta dushti*

↓

Rakta, Pitta-Kapha sthan sanshrya

↓

Ahiputana

***Lakshana* / Symptoms of *Ahiputana* [19,20,21]**

1. *Kandu* (irritability due to itching)
2. *Daha* (burning sensation)
3. *Ruja* (pain)
4. *Tamra-vrana* (redness)
5. *Pidika* (skin lesions)
6. *Shipran sphotam* (blister)
7. *Srava* (discharge)
8. *Ekibhutavrana* (coalesced ulcer)
9. *Ghora* (horrible looking)

10. *Bhuri upadrava* (associated with complications like *jwara* or fever, etc.)

***Bheda*/Types of *Ahiputana* [22]**

Vishesh Bheda of *Ahiputana* are not mentioned by *Vagbhata* and *Susruta*, but *Bhoja's* opinion of '*Yathadosham sudarunam* [23] points to categorization of *Ahiputana* based on the *Doshas* involved and its severity. According to the *Dosha adhikya* which appears in the disease, it may be considered as *Kapha adhikya, Pitta adhikya, Vata adhikya* or *Dwidosha adhikya* or *Sannipatika*. 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.

***Vyadhi Vevachedak Nidan*/Differential Diagnosis of *Ahiputana* [24]**

1. *Atisara*
2. *Putana Graha*
3. *Grahani Roga*
4. *Kushta*
5. *Charmadala*
6. *Ksheeralasaka*

***Chikitsa*/Therapeutic Intervention of *Ahiputana* [25,26]**

1. *Stanya Shodhana*/Cleansing of breast milk

For *Dhatri*

According to *Sushruta* [27] - *Stanya shodhana* done by *Patol patra, Triphala, Rasanjan, Siddha ghruta pana. Triphala, Kola* and *Khadira Kashaya pana* for *Vrana ropana*.

According to *Astanga Hridaya*[28] *Dhatri stanya shodhana* by *Pitta shlesma hara* drugs. So, decoction of *Pitta* and *Shlema hara* drugs should be given to the *dhatri*.

2. Decoctions for intake

- In Remedies to be consumed, *Vagbhata* has recommended that the mother should take a cooling drink made from boiled and chilled water on a regular basis to soothe her *Pitta*. [29]
- According to *Indu* and *Chandra* opinion, *Panaka* prepared of *Sitaseeta*[30] (*Swetachandana* or sandalwood).
- *Tarkshya antarapanaka* for *Anamika, Sthoulya*, *Pittasra, Kandu, Gandagalamaya, Udaraatyunnati*, etc., as per *Ashtanga Sangraha* [31].
- *Indu* defined *Tarkshyasaila* in *Ahiputana* management as *Makshika Rasanjana yoga*, which combines *Rasanjana* and *Swarnamakshika* [32]. Both external and internal use are possible for *Makshika* and *Rasanjana*.

2. Local Application for *Ahiputana*[33-36]

A. *Lepa*

- *Tarksyasaila* mixed with honey
- *Ashmantwak Churna*
- *Shankha, Souviraka, Yastimadhu churna*.

B.*Awachurnan*- *Yashti, Shankha, Sauvirakanjana* or *Sariva, Shankhanaphi, Kasis, Rochan, Tuttha, Manohava, Ala* and *Rasanjan.*

C. *Parishek*- Decoction of *Triphala,* barks of *Badar* and *Plaksa*.

D.*Raktamokshana*[37]- Acharya *Vagbhatta* has advised *Raktmokshana karma* by the application of leech if there is excessive inflammation and itching.

Pathya-Apathya Kalpana* for *Ahiputana

Table 1: *Pathya-Apathya Kalpana*

Pathya	***Apathya***
1. Avoid regular and longtime use of nappies	1. Regular and longtime use of nappies
2. Change the nappies once it gets dirty with faeces or urine	2. Rubbing over the napkin area
3. Regular bath	
4. Keep the napkin area always clean and dry	

Napkin Dermatitis

Ahiputana is equivalent to napkin dermatitis. Some of the conditions are frequently diagnosed as napkin dermatitis in infants and children.

1. Perianal candidiasis
2. Perianal dermatitis
3. Perianal streptococcal disease
4. Perianal infectious dermatitis.

Definition of Napkin Dermatitis

Napkin dermatitis is a common term which is used to specify the inflammatory skin rash of the diaper area in infants due to prolonged contact with irritants like urine, faeces, sweat, moisture, etc due to diaper use [38]. Secondary microbial infections may also follow [39]. Even though not life threatening, the disease can be severely distressing for the infant and mother.

It is the most common skin disease in infants wearing diapers. A prevalence varying from 7% to 35% percent according to a study report[40]. The condition is more common in children under 24 months of age, beginning in the neonatal period when wearing diapers start, with peak incidence in the 9-12-

month age group. After 24 months, toilet training is usually established which reduces its incidence [41,42]. Perianal dermatitis is also found in children due to cow milk allergy, it is one of the causes of napkin dermatitis [43].

Etiology of Napkin Dermatitis [44-53]

A. Peculiarities of diaper area

- Difficulty in cleaning and drying due to folds of the buttock.
- Frequent contact with faeces and urine make the area moist and humid.

B. Diapering practices

- Infrequent changing of diapers
- Mixing of urine and faeces
- Prolonged wetness
- Friction of with diaper
- Improper cleaning
- Use of harsh soaps

C. Mixing of urine and faeces

- Urine increases absorption of skin to irritants and irritates skin due to prolonged exposure.
- In faeces, Bacillus ammoniagenes act on urea in urine to form ammonia which increases the pH of the area from 5.5 to 6.8-7.15.

D. Faecal factor

Digestive enzymes in faeces like proteases, lipases and ureases, bile salts and microbes activated by higher pH act as irritants.

E. Diarrhoea/malabsorption

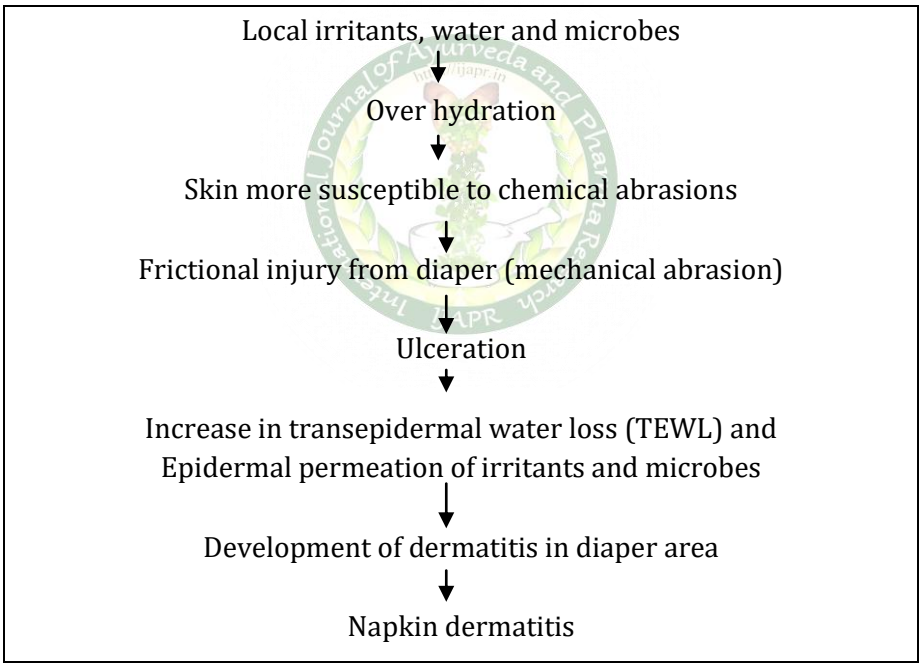
Regular touch with excrement causes the acceleration of gastrointestinal transit which led to an increase in fecal lipase and protease activity, deficiency in minerals, including zinc.

F. Microbes

Higher pH stimulates growth of Candida, staphylococci, streptococci, E. coli, etc. Increase inflammation and skin damage.

Pathogenesis of Napkin Dermatitis

Figure 2: Pathogenesis of Napkin Dermatitis



Clinical Features of Napkin Dermatitis [54, 55]

- Napkin rash predominantly affects the convex surfaces in closest contact with wet or soiled diapers.
- Skin inflammation, lesion and erosion.
- 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.
- Emotional distress is indicated by behavioral changes, such as heightened sobbing and agitation as well as adjustments to feeding and sleeping schedules[56].

Complications of Napkin Dermatitis

1. Granuloma gluteale infantum[57]- There are numerous, violaceous or reddish-brown papules and nodules of varying sizes located on the convexities and running parallel to the skin folds.

2. Jacquet's erosive napkin dermatitis: Is characterized by well-demarcated erosions and punched-out ulcers with elevated margins [58]. The causes include urinary incontinence, diarrhoea, and infrequent diaper changes.

3. Candidial diaper dermatitis: Any nappy dermatitis known to exist for more than three days should be suspected of having Candida albicans [59]. Intense erythema, confluent plaque with a scalloped border and finely defined margins, and satellite pustules and vesiculo-pustules are the hallmarks of Candidial diaper dermatitis.

4. Perianal streptococcal disease: Perianal erythema (pink to beefy red) up to 2cm from anus. The lesions are very tender and may fissure and bleed. There may be involvement of genitals and anal pruritus, painful defecation and blood-streaked stools.

5. Perianal infectious dermatitis - Perianal infectious dermatitis is mostly caused by perianal Staphylococcus aureus infection and is common in male babies. It is marked by dermatitis, pruritus, and superficial erythematous well marginated rash. Genitals may be involved and there may be rectal pain, blood-streaked stools and fecal retention.

Differential diagnosis of napkin dermatitis include [60-64]

Diagnosis of napkin dermatitis is mostly based on physical examination. A careful history is needed to exclude other differential diagnosis.

1. Atopic dermatitis
2. Miliaria or prickly heat
3. Intertrigo
4. Allergic contact diaper dermatitis
5. Seborrheic dermatitis
6. Napkin psoriasis
7. Zinc deficiency and acrodermatitis enteropathica
8. Scabies
9. Congenital syphilis
10. Human immunodeficiency virus.

Management of Napkin Dermatitis

1. Cleaning: Diaper area should be cleaned gently with lukewarm water after changing diapers. Soap is not recommended but if necessary, mild soaps without fragrance may be used. Plain water is preferred to baby wipes.

2. Routine Skin Care: It is essential to provide infants with proper skin care, which includes oiling their skin and applying barrier agents to protect it from irritants. However, if Candida follows, oiling may have the opposite effect[65]. Skincare practices that are appropriate can hasten the recovery of skin damage and helps to avoid the development of napkin dermatitis[66]. Because of their toxicity, topical fluorinated glucocorticosteroids, boric acid, and treatments containing mercury should be avoided in the diaper area[67]. Herbal remedies with antibacterial properties, such as calendula and aloevera, have been shown to treat diaper rashes [68]. In the event of a zinc shortage, supplements are advised. With the right care, recovery from granuloma gluteale infantum can be achieved in a few months.

3. Diapering Practices: Recommendations of diaper changes are based on frequency of urination in infants that is, change every 3-4 hours, totally 6-8 times a day. This reduces prolonged contact with urine and faeces which have a damaging effect on skin [69].

DISCUSSION AND RESULT

Table 2: Comparison of *Ahiputana* with Napkin Rashes

Factors	***Ahiputana***	**Napkin dermatitis**
Age – Infants/children	√	√
Factors – Improper hygiene of napkin area (due to faeces and urine)	√	√
Affects – Napkin area	√	√
Features Inflammation *Pitika* Erosion Redness Itching	√	√

Ahiputana is a disease caused due of vitiation of breast milk, *Stanyadushti* being the utmost specific cause of *Ahiputana*, along with other associated causes like unhygienic condition of after passing urine and stools.

Ahiputana is a disease comparable with Napkin dermatitis which includes irritant contact napkin dermatitis, diaper dermatitis caused by candida albicans, candidiasis in perinatal region, perianal streptococcal disease, perianal infectious dermatitis and other conditions like miliaria, intertrigo and granuloma gluteale infantum.

The symptoms of *Ahiputana* described in *Ayurved samhita* are nearly similar to those of

symptoms stated in modern science napkin dermatitis. Many drugs are used for internal (orally) and external applications (locally) and preventive measures have been described in detail in Ayurved and modern texts for the treatment of *Ahiputana*. Perianal infections especially streptococcal dermatitis is *Pitta* predominant and may require *Pittahara vrana chikitsa* and *Raktamokshana* in refractory cases.

The general treatment mentioned for *Ahiputana* including *Stanya shodhana, Lepas, Awachurnan, Parishek* and *Raktamokshana,* etc are underutilized in the *Kaumarabhritya* OPD and may be wisely advised in different forms of napkin dermatitis.

Improved hygiene, frequent diaper changes, use of superabsorbent disposable diapers, avoidance of over-washing, short periods without diapers, management of candida, etc are required in dermatitis of diaper area along with application of emollients and protective anti-infective agents.

CONCLUSION

According to the *Ayurvedic Samhita, Ahiputana* and in contemporary texts, diaper rash is brought on by unclean or inadequate cleaning of the napkin region, inappropriate diapering techniques, infections from urine and faeces, excessive perspiration, and inadequate skin care of newborns and young children. It will undoubtedly assist *Kaumarabhrityakas*/ pediatricians in putting the various treatment options available for *Ahiputana* in various forms of Napkin dermatitis into practice if they have a thorough understanding of the *Hetu*/causes, *Nidana*/ pathogenesis, *Samprapti*, *Lakshana*/clinical features, management, and differential diagnosis of *Ahiputana* and Napkin dermatitis.

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