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## **Review Article**

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

## Umang Varshney<sup>1</sup>, Sachin Bhagwat<sup>2\*</sup>, Geetika<sup>3</sup>, Shubham Gupta<sup>4</sup>

<sup>1</sup>PG Scholar, \*<sup>2</sup>Associate Professor, Department of Kaumarbhritya, <sup>3</sup>PG Scholar, Department of Striroga & Prasuti tantra, Dr. D.Y. Patil College of Ayurved and Research Centre, Dr. D.Y. Patil Vidyapeeth (Deemed to be University) Pimpri, Pune, Maharashtra, India.

<sup>4</sup>Associate Professor, Department of Striroga & Prasuti tantra, Sanskriti Ayurvedic Medical College and Hospital, Chhata, Mathura, Uttar Pradesh, India.

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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<sup>[1]</sup>. Ahiputana is synonymous with Matruka dosha, Prushtharu, Gudkutta, and Anamika<sup>[2]</sup>. 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<sup>[3]</sup>.



Acharya vaghbhata states that Rakta dhatu, Kapha dosha become worsened and results in Tamravarni vrana at Guda Pradesh<sup>[4]</sup>. 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 OBIECTIVES

- 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*<sup>[5]</sup>. *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*<sup>[7,8]</sup>.
- 4. Arus<sup>[9]</sup>- Sore in Prishta<sup>[10]</sup> back is "Prishtaru".
- 5. *Anamika*<sup>([11]</sup>- "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<sup>[16]</sup>

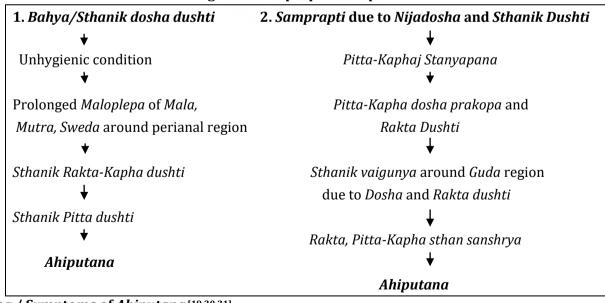
He has said that the skin of the infant is tender and gets easily damaged by clothing, contact with faeces and urine, warm climate, sweating and lack of cleaning thereafter, rubbing with powders etc.

## 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



## 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*<sup>[28]</sup> *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*<sup>[30]</sup> (*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**<sup>[37]</sup>- 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<sup>[40]</sup>. 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

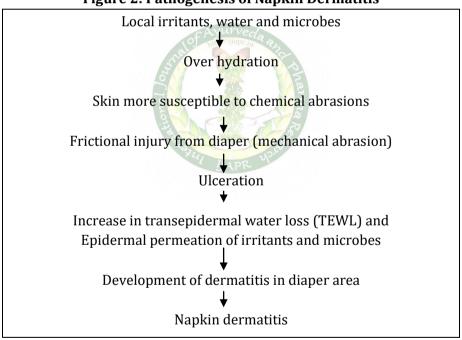
Regular touch with excrement causes the acceleration of gastrointestinal transit which led to an increase in fecal lipase and protease activity, deficiency in minerals, including zinc.

#### 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<sup>[56]</sup>.

## **Complications of Napkin Dermatitis**

- **1. Granuloma gluteale infantum**<sup>[57]</sup>- 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 <sup>[58]</sup>. 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

DISCUSSION AND RESULT

- 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<sup>[65]</sup>. Skincare practices that are appropriate can hasten the recovery of skin damage and helps to avoid the development of napkin dermatitis<sup>[66]</sup>. Because of their toxicity, topical fluorinated glucocorticosteroids, boric acid, and treatments containing mercury should be avoided in the diaper area<sup>[67]</sup>. 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].

Table 2: Comparison of Ahiputana with Napkin Rashes

Factors	Ahiputana	Napkin dermatitis
Age – Infants/children	$\sqrt{}$	$\sqrt{}$
Factors – Improper hygiene of napkin area (due to faeces and urine)	$\sqrt{}$	$\sqrt{}$
Affects – Napkin area	$\sqrt{}$	$\sqrt{}$
Features		
Inflammation		
Pitika	$\sqrt{}$	$\sqrt{}$
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 *Avurvedic 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. 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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## \*Address for correspondence Dr. Sachin Bhagwat

Associate Professor
Department of Kaumarbhritya
Dr D Y Patil College of Ayurved and
Research Centre
Dr D Y Patil Vidyapeeth (deemed to
be university) Pimpri, Pune,
Maharashtra, India.

Email: sbhagwat777@gmail.com

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