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Trikatu and Madhu Pratisarana in Kukunaka- A Review

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ABSTRACT

Kukunaka is a particular type of inflammatory disease of eye seen in Ksheerapa avastha, mostly this disease is caused during the infancy period of around 8 months of age. It may occur as a secondary complication to Dantotpatti. Acharya Kashyapa the pioneer in kaumarbhritya opines this disease as ksheer doshaja one. Kukunaka is explained as the Netra vartam gata Kapha-Raktaj vyadhi. It is a bala Netra rog associated with weakness of eyes with photophobia. Kukunaka is the most common eye disease of newborns and is correlated to Ophthalmia neonatorum or neonatal conjunctivitis. Inflammation is caused by a local irritant or by bacteria & herpes simplex virus. It occurs due to maternal infections during labour and delivery and post-delivery complications or infections. It is an allergic manifestation and the child goes on rubbing the forehead, eyes, nose and throat. This disease is associated with watering & purulent discharge from both eyes, there may be an associated keratitis or uveitis. As per the Acharya Sushruta the Pratisarana of Trikatu and Madhu is useful in Kukunaka. Pratisarana is a sthanika chikitsa in which the medicine is taken with index finger and applied at site of infection.

KEYWORDS

Trikatu, Madhu, Pratisaran, Kukunaka, Ophthalmia Neonat

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INTRODUCTION

Kumarbhritya is an important branch of Ayurveda which deals with Kumarbharan, Ksheerdosh shodhan kriya of dhatri, treatment of dusta stanyaj vyadhis and treatment of grahaj vyadhi1. Acharya Kashyapa is considered as the supreme authority in Kumarbhritya tantra and he has considered this branch to be the best among the 8 angas of Ayurveda2. The branch has been compared to the excellence of Agnideva among other devas. Kukunaka eye diseases has been described in infants by various authors. This disease occurs in infants due to various causes. Kukunaka disease is found in the eyelids due to intake of vitiated Breast milk by doshas.

Table 1 Causative factors of Kukunaka as per various Samhitas

<table>
<thead>
<tr>
<th>S. no</th>
<th>Name of Samhitas</th>
<th>Causative Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sushruta Samhita3</td>
<td>Dusta Stanya due to vitiated Vata, Pitta, Kaph &amp; Rakta</td>
</tr>
<tr>
<td>2.</td>
<td>Kashyapa Samhita4</td>
<td>Dusta Stanya due to vitiated Kapha, Rakta</td>
</tr>
<tr>
<td>3.</td>
<td>Ashtanga Hridaya5</td>
<td>Dantotpatti, Nimitaj Vyadhi</td>
</tr>
<tr>
<td>4.</td>
<td>Yogratnakar6</td>
<td>Ksheer Dosha janya</td>
</tr>
<tr>
<td>5.</td>
<td>Harita Samhita7</td>
<td>Kshaer Dugdha Yukta</td>
</tr>
<tr>
<td>6.</td>
<td>Ravana krita Kumartantra</td>
<td>Ksheer Dosha janya</td>
</tr>
</tbody>
</table>

Samprapti of Kukunaka as per Acharya Kashyapa:

Due to various causative factors, doshas of Mother gets aggravated and causes obstruction of the strotas including Stanya Vaha strotas, hence stanya gets vitiated with doshas8. When baby consumes this breast milk, vitiated doshas enters inside the baby’s body causes akshep (convulsions) and ushanata (rise in body temperature), thus it vitiates Kapha and Rakta to cause disordes of eye by name Kukunaka9.

Hence mother who consumes causative factors in excess results in her breast milk vitiation and same is transferred to the baby.

Table 2 Clinical features of Kukunaka as per different Samhitas

<table>
<thead>
<tr>
<th>S.no</th>
<th>Name of Samhitas</th>
<th>Clinical features</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sushruta Samhita</td>
<td>Ati mardan of Akshikut, nasa &amp; lalata due to ati kandu, Photophobia, Excessive exudates with tears, Adhered eyelids</td>
</tr>
<tr>
<td>3.</td>
<td>Ashtanga Hridaya</td>
<td>Vartma shoola, Pachilayta, karma nasa akshi mardana11.</td>
</tr>
<tr>
<td>4.</td>
<td>Yogratnakar</td>
<td>Netra kandu, Netra srava, lalata akshi kantha nasa gharshanam12.</td>
</tr>
<tr>
<td>5.</td>
<td>Ravanakrita Kumartantra</td>
<td>Netra atikandu, srava, Mastakakshikuta, Nasagharshanam, Netromnilankshaya</td>
</tr>
</tbody>
</table>

OPHTHALMIA NEONATORUM

Ophthalmia Neonatorum or Neonatal Conjunctivitis is characterized by inflammation of conjunctiva in newborn.
Inflammation is caused by a local irritant (chemical conjunctivitis) or by bacteria (Neisseria gonorrhoeae, Chlamydia trachomatis, Staphylococci, Streptococci and Gram negative sp.) and Herpes simplex virus\textsuperscript{14}. The risk in newborns depends on maternal infections, circumstances during labor and delivery, prophylactic measures and post-delivery exposures to infections\textsuperscript{15}. 

Chemical conjunctivitis most commonly seen is associated with silver nitrate which usually resolves within 48 hrs.

Gonococcal conjunctivitis characterized by bilateral conjunctival oedema, lid edema with thick & purulent exudates which begins1–4 days after birth. There may be corneal ulceration or panophthalmitis with loss of vision.

Chlamydial conjunctivitis presents with inflammation, eye discharge and eye lid swelling 5-14 days after birth\textsuperscript{16}.

Epidemiology:

Neonatal Conjunctivitis is usually acquired during vaginal delivery which reflects the sexually transmitted infections. Chlamydia trachomatis is the most common cause of Ophthalmia Neonatorum in the United States, where incidence rate is 8.2/1,000 births\textsuperscript{17}. The prevalence of this infection in India is 0.5 to 33 %\textsuperscript{18}.

Clinical features:

Ophthalmia neonatorum is characterized by congestion and chemosis of the conjunctiva, edema of the eyelids and purulent discharge\textsuperscript{19}. Watering and purulent discharge from both eyes in neonates, there may be an associated keratitis or uveitis in Gonococci infection the sign and symptoms are severe, there are systemic features like fever, urethritis, arthritis, endocarditis, meningitis and septicemia\textsuperscript{20}.

After birth the inflammation in eyelids caused by silver nitrate drops occurs within 6–12 hours. The incubation period Gonococcal conjunctivitis is 2–5 days, and for that due to C. trachomatis is 5–14 days. Gonococcal infection is present from birth or may be lingered by 5 days due to ocular prophylaxis.

Gonococcal conjunctivitis starts with serosanguineous discharge and inflammation. The discharge becomes purulent and thick with eyelid inflammation and chemosis in one day. The infection may reach the further layers of the conjunctiva & the cornea if the patient treatment is lingered. Complications include iridocyclitis, corneal ulceration & perforation and panophthalmitis. Conjunctivitis caused by C. trachomatis may vary from mild inflammation to severe inflammation of the eyelids with thick purulent discharge. Conjunctiva is chiefly affected in this disease while the cornea is rarely affected. Nursery acquired conjunctivitis is severe disease presented by
presence of eyelid edema, thick & purulent discharge & further may lead to the septicemia & shock.

**Diagnosis:**
A conjunctival swab will help identify the organism.
Conjunctivitis appearing after 48 hr should be evaluated for a possibly infectious cause. Culture test of purulent discharge & Gram staining helps in proper diagnosis. The differential diagnosis includes Dacryocystitis caused by con-genital lacrimal duct obstruction with lacrimal sac distention (dacryocystocele)\(^21\).

**DRUG REVIEW**

**Shunthi (Rz.)\(^22\)**
*Shunthi* consists of dried rhizome of Zingiber officinale Roxb. (Fam. Zingiberaceae)

**SYNONYMS:**

Sanskrit: Aushadha, Muhauashadha, Nagar, Vishva, Vishvabheshaja, shrnagavera, Vishvashadh
Assamese: Adasuth, Aadar Shuth
Bengali: Suntha, Sunthi
English: Ginger root
Gujrati: Suthndh, Suntha
Hindi: Ardraka
Kannada: Shunthi
Kashmiri: Shonth
Malayalam: Chukku
Marathi: Sunth
Oriya: Sonth
Punjabi: Sund
Tamil: Sukku, Chukku
Telugu: Sonthi, Sunti
Urdu: Sonth, Zanjabeel

**CONSTITUENTS** - Essential oil, pungent constituents (gingerol and shogaol), resinous matter and starch.

**PROPERTIES AND ACTION**

*Rasa:* Katu
*Guna:* Snigdha, laghu
*Virya:* Ushna
*Vipaka:* Madhura
*Karma:* Anulomana, Deepana, Hridya, Pachana, Vatakaphapaha, amadosahara

**THERAPEUTIC USES** - Agnimandya, shvasa, adhmana, amavata, Pandu, Udararoga

**Maricha (Frt.)\(^23\)**
*Marica* consists of dried fruit of Piper nigrum Linn. (Fam. Piperaceae)

**SYNONYMS** -

Sanskrit : Vellaja, Krishna, Ushna
Beng. : Golmorich, Kalamorich, Morich
Eng. : Black Pepper
Guj. : Kalimori
Hindi. : Kalimirch
Kan. : Karimonaru, Menaru
Mal. : Kurumulaku
Mar. : Kalamiri
Punj. : Galmirich, Kalimirch
Tam. : Milagu
Tel. : Miriyalu, Marichamu
CONSTITUENTS - Alkaloids (Piperine, Chavicine, Piperidine, Piperetine and Essential Oil.

PROPERTIES AND ACTION -
Rasa : Katu, Tikta
Guna : Laghu, Ruksha, Tikshana
Virya : Ushna
Vipaka : Katu
Karma : Shleshmahara, Deepana, Medohara, Pittakara, Ruchya, Kaphavatajit
Vatahara, Chedana, Jantuasanna, Chedi, Hridroga, Vataroja.

IMPORTANT FORMULATIONS -
Marichyadi Gutika, Marichyadi Taila, Trikatu Churna

THERAPEUTIC USES -
Shvasa, Shoola, Krimiroga, Tvagroga.

Pippali (Ft.) 24
Pippali consists of the dried fruits of Piper longum Linn. (Fam. Piperaceae)

SYNONYMS
Sanskrit : Kana, Magadha, Saundi, Krishna, Magadhi,
Assamese : Pippali
Bengali : Pipul
English : Long Pepper
Gujrati : Lindi Peeper
Hindi : Pipar
Kannada : Hippali
Malayalam : Pippali
Marathi : Pimpali
Oriya : Pipali, Pippali

Punjabi : Magh, Magh Pipali
Tamil : Arisi Tippali, Thippili
Telugu : Pippalu

CONSTITUENTS - Essential Oil and Alkaloids

PROPERTIES AND ACTION
Rasa : Madhura, Katu, Tikta
Guna : Snigdha, Laghu
Virya : Anushna
Vipaka : Madhura
Karma : Deepana, Hridya, Kaphahara,
Ruchya, Tridoshahara, Vataroja, Vrishya,
Rasayana, Rechana

THERAPEUTIC USES - Shoola, Arsha,
Gulma, Hikka, Kasa, Krimi, Kshaya,
Kushtha, Pliha
Roga, Prameha, Shvasa, Trishna, Udara
Roga, Ama Vata, Amadosha, Jvara.

Madhu25
Madhu is a Sugary secretion deposited by honey bees.
Synonyms: Madhu, Kshodra, Makshika,
Madhvika, Pushpasava, Kusumasava
English Name: Honey
Hindi Name: Shahad
Types: Pauttika, Bharamara, Kshaudra,
Makshika, Chhatara, Aarghya, Auddalaka,
Dala
Chemical constituents : Fructose, glucose,
Sucrose, Dextrine, formic acid, volatile oil,
enzymes, maltose, amino acids.
Rasa – madhura
Anurasa- Kashaya

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Table 3 Rasa Panchaka of Trikatu & Madhu

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>NAME</th>
<th>GUNA</th>
<th>RASA</th>
<th>VIRYA</th>
<th>VIPAKA</th>
<th>DOSHAGHNATA</th>
<th>KARMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shunthi</td>
<td>Laghu, Snigdha</td>
<td>Katu</td>
<td>Ushna</td>
<td>Madhura</td>
<td>Kapha - Vataghna</td>
<td>Shoothar Deepana, Pachana, Vrishya, Hridya,</td>
</tr>
<tr>
<td>2</td>
<td>Maricha</td>
<td>Laghu, Tikshana</td>
<td>Katu</td>
<td>Ushna</td>
<td>Katu</td>
<td>Kapha - Vataghna</td>
<td>Deepana, Pachana, Shulaginha Lekhan</td>
</tr>
<tr>
<td>3</td>
<td>Pippali</td>
<td>Laghu, Snigdha</td>
<td>Katu</td>
<td>Ushna</td>
<td>Madhura</td>
<td>Kapha - Vataghna</td>
<td>Shoolagna, Shothhara Deepana, Pachana, Rasayana, Vrishya,</td>
</tr>
<tr>
<td>4</td>
<td>Madhu</td>
<td>Laghu, Ruksha, Sheeta</td>
<td>Madhura</td>
<td>Sheeta</td>
<td>Madhura</td>
<td>Tridoshaghna</td>
<td>Vrana Shodhan Ropana, Sandhana, Chakshushya, Chedan</td>
</tr>
</tbody>
</table>

**Pratisarana:**

Pratisarana Chikitsa is explained in most of the samhitas.

“Pratisaryate Gharshyate aneneti pratisaranam”

“Shanairgharshanam Angulya Taduktam Pratisaranam”

“Angulya Gharshanam”

Pratisarana is a gentle massage done with the finger for shorter duration on teeth, tongue or buccal cavity in the form of Kalka, Churna, Rasakriya or Avaleha. Acharya Sushruta has mentioned it as one of the Upkarmas of Vrana and also it is described in Netra roga chikitsa as paschata karma to remove the lesions. Pratisarana is done mainly in kapha Pradhana vyadhi with expected lekhana effect.

**Table 4 Classification of Pratisarana according to Different Acharyas**

<table>
<thead>
<tr>
<th>Acharyas</th>
<th>Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sushruta30</td>
<td>Kalka, Rasakriya, Kshaudra, Churna</td>
</tr>
<tr>
<td>Ashtanga Hridaya31</td>
<td>Kalka, Rasakriya, Churna</td>
</tr>
<tr>
<td>Ashtanga Sangraha32</td>
<td>Kalka, Rasakriya, Churna</td>
</tr>
<tr>
<td>Bhavaprakasha33</td>
<td>Kalka, Churna, Avaleha</td>
</tr>
<tr>
<td>Yogaratnakara34</td>
<td>Kalka, Churna, Avaleha</td>
</tr>
<tr>
<td>Sharngdhara35</td>
<td>Kalka, Churna, Avaleha</td>
</tr>
</tbody>
</table>

Churna is the upkalpana of kalka. It is a dried powdered form of drug. Trikatu Churna mixed with Madhu Pratisarana is explained in Sushruta uttara tantra as a
treatment modality of Kukunaka. Trikatu Churna is powder of Shunthi, Maricha & Pippali.

**DISCUSSION**

**DISCUSSION ON MODE OF ACTION OF PRATISARANA:**

Pratisarana is a mechanical approach, which is gentle rubbing with index finger. It mainly possesses shodhan and ropan properties. By pratisarana mechanical pressure is exerted over and around the eye which remove desquamated epithelial cells, infected debris and bacterial colonies and increases inhibition of bacterial diffusion into the tissues. Pratisarana also enhances absorption of active principles of dravyas i.e. Shunthi, Marich, Pippali and Madhu.

Based on the above information Pratisarana helps in healing of tissues and has excellent Shodhan Kriya.

**DISCUSSION ON MODE OF ACTION OF DRUGS**

As per the Acharya Sushruta the Pratisarana of Trikatu and Madhu is useful in Kukunaka. Trikatu consist of shunthi, maricha & pippali, so these have different properties which are vrana shodhaka & vrana ropaka, Shunthi is having shothhara & hrudya properties, Maricha is having shulaghana & lekhana properties Pippali is having shulahar & shothaghana properties Madhu is having Vrana Shodhaka, ropaka & chedan properties. It is essential to remove the dushti by the virtue of shodhan & vranaropan to achieve healing.

Trikatu & madhu both are having these properties which are alleviating these inhibitory factors.

Hence it is concluded that trikatu with madhu possess high efficacy in vrana shodhan, fine healing so it can be recommended as cost effective, effective therapy & easy to prepare in treatment of Kukunaka.

**CONCLUSION**

By the above review of each drug we conclude that trikatu with madhu have shodhan & ropan properties and different formulations of trikatu and madhu needs to be tried as anti-inflammatory application for kukunaka. Local Application of trikatu & ghrita provided good results by reduction of kukunaka & promotion of healing.
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