



A REVIEW ON KUKUNAKA W.S.R OPHTHALMIA NEONATORUM

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Article Received on 29/06/2023

Article Revised on 20/07/2023

Article Accepted on 10/08/2023

ABSTRACT

Ophthalmia Neonatorum is a bilateral inflammation of conjunctiva occurring in an infant or less Than a month. In Ayurveda we can correlate it with kukunaka^[1] *Acharya Shushruta* mentioned in this text kukunaka¹ is caused due to vitiated breast milk where as *Acharya Vagbhata*^[2] mentioned it is arise during dentations. according to *Ayurveda kukunaka* is a *varatamgata vyadhi* according *Acharya Shushruta*^[3] the Vitiation of *Dosha* is *Tridosha* along with *Rakta* and according to *Acharya kashyapa*^[4] only *kapha* with *Rakta* The common feature of Ophthalmia Neonatorum is purulent or mucoid or mucopurulent Conjunctival discharge swollen eyelids pain in eye lids chemosis of conjunctiva etc. in treatment protocol in *Ayurveda* our *Acharya* mentioned a line of management like *Vartamprakshalan*, *Parisheka*, *Ashchotana*, *Shodhanakarman* and many more. *Ayurveda* mainly focused on two type of management *Shamanachikitsa* and *shodhanachikitsa*. In modern science there is also a protocol like topical antibiotics steroids and so many other type of medication are given to the patients. We correlate all the symptoms with protocol to treat the kukunaka as well as Ophthalmia Neonatorum.

KEYWORDS: *Kukunaka*, Ophthalmia Neonatorum. *Vartamprakshalan*, *Parisheka*, *Ashchotana*, *Shodhana*, *Vartamgata Vyadhi* etc.

INTRODUCTION

Eye is an important sense organ. It has been privileged as the main sense organ because its loss of function leads to serious disability of a man by keeping him in the darkness. Life without eyesight is miserable and valueless. Hence it is very important to protect vision at any cost. *Vagbhata*, the great author of *Ayurveda* has rightly described the importance of eyes in the verse. *Acharya Shushruta* has counted it under communicable diseases.

Conjunctivitis is inflammatory condition of conjunctiva mainly occurs due to the infection of the membrane characterized by discharge which may be (watery, mucoid, mucopurulent), irritation and discomfort. In *Ayurveda* all the routes of infection known today such as ingestion, inhalation, physical contact in and vectors are included. Furthermore it has unequivocally stated that these disease spread from one person to another or by contact with the diseased person. It is also interesting that diseases mentioned above are certainly infectious in nature. The contagious diseases are thought to be caused by invisible creatures present in the environment and classified the diseases as *Agantuja Roga* (Exogenous).

Ayurveda described conjunctivitis as *Abhishyanda*. *Ophthalmia Neonatorum* is used as a broad term to include all types of conjunctivitis of the newborn or infant. It is also known as infant neonatarum. It may be caused by two ways-Aseptic, Septic.

- ❖ Aseptic: Chemical agents
 - ✓ Silver nitrate
 - ✓ Antiseptics
- ❖ Septic:
 - ✓ Streptococcus haemolyticus,
 - ✓ Streptococcus aureus.
 - ✓ Neisseria gonorrhoeae.
 - ✓ Chlamydia trachomatis.
 - ✓ Herpes simplex (very rare).
- Viral infection is less common can caused by Adenovirus, Entrovirus. Ophthalmia Neonatorum infection occur in three ways-
 - ✓ Before birth (very rare)
 - ✓ During birth (very common)
 - ✓ After birth

Epidemiology

The prevalence is influenced by socioeconomic position, maternal health care standards, and the frequency of

STDs.^[5] Ophthalmia neonatorum was shown to be prevalent in England from 2000 to 2011, with a rate of 257 cases per 100,000 live births.^[6] Ophthalmia Neonatorum caused by gonorrhoea occurred 3.7 times per 100,000 live births in 2003, while ophthalmia neonatorum caused by Chlamydia occurred 6.9 times per 100,000 live births. Higher rates of chemical conjunctivitis are observed in nations that use silver nitrate as a preventative measure. Ophthalmia

Neonatorum has historically been one of the leading causes of vision loss, responsible for 80% of blindness in Germany and 45% of blindness in Paris.^[7]

The greatest risk factor for gonococcal or chlamydial origin ophthalmia neonatorum is the presence of a sexually transmitted disease in mother. There is high rate of transmission (30-50%) from infected mother to infant.

Table 1: Causative factors of Kukunaka as per various Samhita's.

S.no.	Name of Samhitas	Causative Factor
1.	<i>Sushruta Samhita</i>	<i>DustaStanya due to vitiated Vata, Pitta, Kaph & Rakta</i>
2.	<i>Kashyapa Samhita</i>	<i>DustaStanya due to vitiated Kapha, Rakta</i>
3.	<i>Ashtanga Hridaya</i>	<i>DantoipattiNimitaj Vyadhi</i>
4.	<i>Yogratnakar</i>	<i>Ksheer Doshajanya</i>
5.	<i>Harita Samhita</i>	<i>KshaarYuktaDugdha</i>
6.	<i>Ravanakrita Kumartantra</i>	<i>Ksheer Doshajanya</i>

Any discharge or even watering from the eyes in an infant, or less than 30 days old, should arouse suspicion of Ophthalmia Neonatorum. It is affecting 1.6% to 12% of infants in the western world and upto 23% in developing countries. According to survey in England from 2000 to 2011, the incidence rate of Ophthalmia Neonatorum to be 257 per 100,000 live births in 2011.^[6] In 2003, incidence of Chlamydia induced Ophthalmia Neonatorum was 6.9 per 100,000 live births & of Ophthalmia Neonatorum caused by gonorrhoea 3.7 per 100,000 live births. Gonococcal infection was considered a serious disease in the past, which was responsible for 50% of blindness in children. The main risk of Ophthalmia Neonatorum of gonococcal or chlamydial origin is the presence of sexually transmitted disease in mother. There is high rate of transmission (30-50%) from infected mother to infant. In *Ayurveda*, *Kukunaka* is a disease which affects the eyes in infants. According to *Sushruta* it is explained as *Netra Vartmagatavayadi* which particularly seen in the *Ksheerapa* period where as *Vagabhata* explained it is arise during dentition. The clinical features explained in *Ayurvedic* classics like *Abhikshamasrasravam* (excessive lacrimation), *Prakashamneshakte* (intolerance to light), *Shotha* (oedema), *Netramatikandu* (itching in eye) is suggestive of inflammatory or infectious disease of eye.

In contemporary science the almost same features are explained in Ophthalmia Neonatorum.

CLINICAL FEATURE

Ophthalmic Neonatorum is an acute, purulent, mucopurulent or mucoid discharge from one or both eyes in less than 30 days old infant. The sign and symptoms of ophthalmic neonatorum are mentioned below-

- ✓ Pain
- ✓ Redness in eyes
- ✓ Conjunctival discharge
- Purulent discharge-Chlamydial infection
- Mucopurulent discharge -Gonococcal infection
- Bloody discharge -HSV
- ❖ Tenderness in the eyeball
- ❖ Lids are usually swollen
- ❖ Chemosis of conjunctiva
- ❖ Itchiness in eyes
- ❖ Irritation in eyes
- ❖ Difficulty to open eye in morning
- ❖ Tearing and burning sensation
- ❖ Corneal inflammation (in simplex herpes)

If untreated, it can develop Staphyloma or Corneal ulcerations.

Table 2: Clinical features of Kukunaka as per different Samhitas.^[1-4]

S.No	Name of Samhita	Clinical features
1	<i>Sushruta Samhita</i>	<i>Atimardan of Akshikut, nasa&lalata due to atikandu, Photophobia, Excessive exudates with tears, Adhered eyelids.</i>
2	<i>Kashyapa Samhita</i>	Excessive lacrimation, absence of sneezing, discomfort, frequent rubbing of nasal area, forehead & eyeballs, itching in the eyes, intolerance to light, swelling over eyelids.
3	<i>Ashtanga Hridaya</i>	<i>Vartmashoola, Pachilayta, karnanasaakshimardana.</i>
4	<i>Yogratnakar</i>	<i>Netra kandu, Netra Srava, lalataakshi kantha Nsagarshanam.</i>
5	<i>RavanakritaKumartantra</i>	<i>Netra atikandu, Srava, Mastakakshikuta, Nasagarshanam, Netronmilankshaya</i>

- **DIAGNOSIS**
a) History Taking.

- b) Eye examination.
c) Eye discharge for culture and sensitivity.

d) Taking swab from the infected conjunctiva

TREATMENT

Snigdha or *Ushna* drugs used for *Vataja Abhishyanda*, *Mrudu* and *Shitala* therapy recommended for *Pittaja Abhishyanda* while *Tikshna*, *Ruksha* and *Vishada* drugs advised for *Kaphaja Abhishyanda*. *Snehana*, *Swedana*, *Anjana*, *Seka*, *Ruksha Aschyotana* & *Ruksha Putpaka*, etc. are useful for *Kaphaja Abhishyanda*. Local application of paste of drugs to eyelids externally, here drugs like *Rasanjan*, *Shunthi*, *Vacha*, *Haridra* and *Murungi*, etc. can be used for the purpose of local application in case of *Abhishyanda*.

Tikshna gandusha & *Nasya* also advised when symptoms are manifested, *Snehana* with *Ghee*, *Sneha Virechana*, *Snehana Nasya* and *Sirobasti*, etc. also advocated to relieves symptoms of *Abhishyanda*.

➤ Prophylactic treatment is always better than curative

1. Infant is isolated during 24hr. of treatment.
2. Prophylaxis include through care of mother and treatment of genital infections when suspected.
3. Deliveries should be conducted under hygiene condition.
4. The newborn baby's closed lids should be thoroughlycleansedand dried.^[13]
5. Povidone -iodine 2.5% solution is effective against common pathogens.
6. Use of 0.5% erythromycin ointment into eyes of the babies immediately after birth are useful for preventing bacterial and chlamydiaophthalmia neonatorum.
7. Single injection of ceftriaxone 50mg/kg IM or IV should be given to infants born to mothers with untreated gonococcal infection.
8. Curative treatment include Topical therapy which include Saline lavage(hourly till the discharge is eliminated),Eye ointment(Bacitracin 4times a day).
9. In active cases Pencillin G is effective if the organism is sensitive to pencillin, or a broad spectrum antibiotics if the organism is resistance to pencillin.
10. Systemic therapy-Neonateswith gonococcal ophthalmiashould be treated for 7 days with one of these following regimes. (Ceftriaxone: 75-100mg/kg/day IV QID, Ciprofloxacin: 10-20mg/kg/day IV)
11. Neonatal inclusion conjunctivitis responds well to topical tetracycline 1% or erythromycin 0.5% eye ointment qid for 3 weeks. However, systemic erythromycin (125 mg orally, qid for 3 weeks) should also be given since the presence of chlamydia agents in the conjunctiva implies colonization of upper respiratory tract as well. Both parents should also be treated with systemic erythromycin.
12. Herpes simplex conjunctivitis is usually a self-limiting disease.^[14] However, topical antiviral drugs control the infection more effectively and may

prevent the recurrence. High dose intravenous acyclovir is indicated in cases suspected of systemic herpes infection.

13. Other bacterial ophthalmia neonatorum should be treated be treated for two weeks by broad spectrum antibiotic drop and ointments.
14. If cornea is involved then use atropine sulphate ointment.

In Ayurveda

1. Bloodletting by *Jalouka* or *Harshringar's* leaves on infant's eyelids.
2. Eye wash with the *decocotion* made of *Amalaki*, *Jambu*, *Aamra*, *Eranda*, *Varuna* .
3. Do *Aschyotana* with *Triphla ghrita* or *Giloy ghrita*.
4. Do *Pratisaran* with *Trikatu churna*.
5. The breast milk is to be purified by induce vomiting to both mother and child.

6. Anjana Varti

- ✓ Equal amount of *Manahshila*, *maricha*, *sankh nabhi*, *rasanjana*, *sandhavlavana*, *guda*, honey.^[15]
- ✓ Add milk, *Madhu*, *Ghrita in Lohabhasma*, to make *Varti*.
- ✓ Burn *Murva*, *Mulethi*, *Aamratawak* then use it as an *Anjana*.

7. According to Vagabhata

Apply *Lepaana* on of mother breasts and do *Dhupana karma* also.

8. Apart from these, drugs like *Haritaki*, *Gorochan*, *Pushpaka*, *nirmali* seeds are beneficial for eyes.

CONCLUSION

Abhishyanda is *Sarvagata Netraroga* which affects eye in all ways and possess symptoms of conjunctivitis as per the modern science. Ophthalmic Neonatorum is the name given to bilateral inflammation of the conjunctiva occurring in an neonate, less than 30days old. It is a preventable disease usually occurring as a result of carelessness at the time of birth. *Kukunaka* is a common disease in neonates due to the vitiation of *Tridoshas*. It is explained under *Dantopatti Kaleenavyadi* affecting *Netra*. By analysing the history and symptoms, it might be caused due to kapha *Pradhan DushtaStanyapana*. *Kukunaka* particular type of inflammatory disease of eye seen in infants of one month or less than one month. The *Lakshanas* which were explained in classics for *Kukunaka* are similar to Ophthalmia Neonatorum. It may also occur as a secondary complication of *dantotpatti*. It is *Sadhya* in nature.

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