

LETRATURE REVIEW OF NAKTANDHYA WITH ITS MODERN ASPECTS

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Article Received on 07/09/2019

Article Revised on 27/09/2019

Article Accepted on 17/10/2019

ABSTRACT

Night blindness is a condition in which patient can see normally during day time but unable to see at night. It is more commonly seen in childrens and persons with Vit. A deficiency and hereditary diseases. Vit A deficiency causes reversible loss of scotopic i.e. night vision. In ayurveda samhitas it is described in various Drishtigata Rogas. It's management is also described in various ayurveda samhitas like Sushruta Samhita, Sharangadhara Samhita, Ashtanga Hridaya, Ashtanga Sangraha, Yogaratnakara etc. This article gives information about *Naktandhya* definition, types, ayurvedic and modern management.

KYEWORDS: Naktandhya, Night blindness, Nakulandhya, Vit. A deficiency.

INTRODUCTION

Naktandhya is a condition in which patient is unable to see at night but can see at day times i.e. Nightblindness also called as Nyctalopia. It does not cause complete blindness. Night (Scotopic) vision is a function of rods. Therefore the condition in which functioning of these nerve endings is deranged will result in Night blindness, these includes vit. A deficiency, tapeto retinal degenerations like RP, congenital high myopia, familial congenital night blindness & Oguchi's disease. It may also develop in conditions of the ocular media interfering with the light rays in dim light. These include paracentral lenticular & corneal opacity, in advanced cases of

primary open angle glaucoma dark adaptation may be so much delayed that patient gives history of Night blindness.

Globally Night blindness affects 5.2 million pre-school age children & 9.8 million pregnant women which corresponds to 0.9% & 7.8% of the population at risk of vit. A deficiency (VAD) respectively.^[1]

Ayurvedic aspect of *Naktandhya*

Naktandhya is not separately described as a disease in a Ayurvedic Samhitas; but it can be seen as a *Lakshana* (symptoms) of various *Drishtigata Rogas*.

Drishtigata Roga Samkhya Samprapti

By Aacha. Sushruta -12	By Aacha. Vagbhat – 27
<i>Linganasha</i> – 6	<i>Linganasha</i> – 6
<i>Pittavidagdha Drishti</i>	<i>Aaupsargika Linganasha</i> – 2
<i>Kaphavidagdha Drishti</i>	<i>Pittavidagdha Drishti</i>
<i>Dhumadarshi</i>	<i>Doshandha</i>
<i>Hraswajaddya</i>	<i>Dhumara</i>
<i>Nakulandha</i>	<i>Hraswadrishti</i>
<i>Gambhirika</i>	<i>Nakulandhya</i>
	<i>Timira</i> – 6
	<i>Kacha</i> – 6
	<i>Ushnavidagdha Drishti</i>
	<i>Amlavidagdha Drishti</i>

Among these *Drishtigata Rogas Naktandhya* found in *Kaphavidagdha Drishti* (*Doshandha*), *Hraswadrishti*, *Nakulandhya* and *Ushnavidagdha Drishti* etc Rogas.

But according to Acharya Videha, there are 4 types of *Naktandhya*.^[2]

- 1] *Kaphavidagdha Drishti*
- 2] *Hraswajaddya*
- 3] *Nakulandhya*

4] *Dhumadarshi*1] *Kaphavidagdha Drishti*

Paryaya = According to Sushruta = *Shleshma Vidagdha Drishti*

According to Vagbhata = *Doshandha*

According to Madhukosha = *Naktandhya*

Doshadhikya = *Kapha Dosha*

Lakshana =

According to Sushruta Samhita^[3]

- Due to vitiation of *Kapha Dosha* patient see all things of white colour
- If *Kapha Dosha* affects three *Abhyantara Patalas* of the *Netra* then *Naktandhya* develops
- During day time due to heat of sunlight *Shamana* of *Kapha Dosha* occurs & patient can see at day.

According to Vagbhata Samhita^[4]

During sunset due to cold environment *Dosha* get impacted & covers the *Drishti* or obstruct the *Drishtipatha* and during day time due to heat of sun rays *Dosha* get liquefied & patient can see clearly

Sadhyasadhyatwa = *Sadhya*

Treatment = According to Sushruta.^[5]

- Use all *Ushna* & *Kaphadoshahara Dravyas* & procedures.
- *Ghritapana* – *Tivrutta* or *Tilwaka Ghrita*
- *Anjana* & diet -
- ✓ *Godha Yakrita Sevana* & *Anjana*
- ✓ *Aja Yakrita Sevana* & *Anjana*
- ✓ *Yakrita Pliha Anjana* + *Sarshapa Tail* = *Anjana*
- ✓ *Gairika, Saindhava, Pippali, Godanti Bhasma* with honey = *Anjana*
- ✓ Leaf of *Kapithha* with honey = *Anjana*

According to Vagbhata^[6]

- *Rasakriyanjana*
- *Dadhi Marich Yoga* – *Anjana*

2] *Hraswajaddya*^[2]

Paryaya – *Hraswa Drishti, Hraswajaddya.*

Doshadhikya – *Pitta Dosha*

Lakshana =

- Due to vitiation of *Pitta Dosha Drishti* becomes small.
- Because of this in day time large thing look small with difficulty & at night patient can't see
- According to Acha. Dalhana
- This disease affects all 4 *Abhyantara Patalas* of *Netra*.

Sadhyasadhyatwa = *Asadhya*

Treatment = not mentioned

3] *Nakulandhya*^[7,8]

Doshadhikya – *Tridosha*

Lakshana

- Due to vitiation of *Tridosha Drishti* looks like *Drishti* of *Nakula*
- During day time patient see abnormal structure (*Chitra-Vichitra Rupa*)
- During night patient can't see

Sadhyasadhyatwa

As per Sushruta – *Asadhya*

As per Vagbhata – *Yapya*

Treatment

- *Tridoshatmaka Nakulandhya* treat as *Timir Roga*
- *Rasakriya Anjana*
- *Dadhimaricha Yoga* - *Anjana*
- *Karanja Beeja, Nilotpala, Gairika, Shweta Kamal Keshara*, juice of cow dung apply as *Anjana*
- *Pippali, Surma, Saindhava*, urine of goat apply as *Anjana*
- Yellow *Chandana, Trikatu, Triphala, Hartala, Manshila, Samudraphena churna*, mix with goat milk & apply as *Anjana*

According to Yogaratnakara^[9]

Vacha, Nishottar, Raktachandana, Guduchi, Kirattikta, Nimbasala, Haridra, Vasa,- Kwathapanartha – after digestion of food.

Diet

- fried *Jivanti* leaf in *Ghrita*.
- fried leaves of *Eranda, Nirgundi* & *Shatavari* in *Ghrita*
- *Agasti Patra Siddha Ghrita* - *Panartha*

4] *Dhumadarshi*^[10,11]

Paryaya = *Dhumara, Dhumadarshi*

Hetu = *Shoka, Shiroroga, Shirashula, Jwara, Atishrama*

Doshadhikya =

According to Sushruta = *Pitta Dosha*

According to Vagbhata = *Vatadi Dosha*

Lakshana

- Due to *Shoka, Jwara, Vata, Pittadi Dosha* get vitiated & make blurring of vision
- Patient see all things blurred

Sadhyasadhyatwa = *Sadhya*

Treatment =

According to Sushruta^[12]

- *Ghritapana*
- Treat as *Pitta* or *Raktabhishyanda, Pittaja Visarpa*

According to Vagbhata^[13]

- *Snehana* – *Purana Ghrita*
- *Virechana* – *Shita Dravyas*
- *Lepa* – *Shita Dravya Lepa*

- *Anjana* - *Surma* boil in *Ghrita*, *Godugdha* & *Goshakrita Rasa*, then add *Suvarna Gairika*, *Talisapatra Churna* & apply as *Anjana*
- *Nasya* - *Meda*, *Lodhra*, *Dhamasa*, *Manjishtha*, *Daruharidra*, *Yashtimadhu Siddha Ghrita* & *Tail*.
- *Tarpana* – by *Goghrita*
- *Raktamokshana* – if patient not get relief from above treatment then done *Raktmokshana* by *Siravedha*

5] *Ushnavidagdha Drishti*

Hetu – Emersion in water immediately after long contact with sunlight.

Lakshana^[14]

- Burning sensation in eyes
- Muddyness of *Shwetabhaga* of *Netra*
- Patient see blure in day but can not see at night

Doshadhikya – *Tridosha* & *Rakta*

Treatment – as like *Dhumara*

Naktandhya Chikitsa

According to Sharangdhara Samhita.^[15]

- *Pathyadi Kashaya*
- *Rasanjana Varti*
- *Punarnava Rasanjana* with *Kanji*
- *Kana Anjana*

According to Yogaratnakara^[16]

- *Triphala Churna* with honey or *Ghrita* at evening for 21days
- *Mahatriphala Ghrita*

Modern Aspect of Naktandhya – Night Blindness

Night blindness is a disorder in which the sufferer has trouble seeing at night.

It is a symptom of some underlying conditions which may have several causes. These conditions includes glaucoma, cataract, vit. A deficiency, Retinitis pigmentosa etc.

Mainly Two things causes this disorder

- 1] Vit. A deficiency
- 2] Genetic inheritance

1] Vit. A deficiency^[17]

- Vit. A helps develop the retina & vision receptor cells rods & cones. In vit A deficiency the rod cells doesn't develop properly.
- Ocular manifestation of vit. A deficiency are referred to xerophthalmia.
- Xerophthalmia is now cover all the ocular manifestations of vit. A deficiency including not only the structural changes affecting the conjunctiva, cornea & occasionally retina but also the biophysical disorders of retinal rods & cones functions.
- Night blindness is the earliest symptom of xerophthalmia in children. On progression it shows conjunctival xerosis, Bitots spots, corneal xerosis,

corneal ulceration, keratomalacia, corneal scars & xerophthalmic fundus.

2] Genetic inheritance

- Night blindness is sex- linked disorder because the x-chromosome found to be different than normal in people with the disorder.
- It also called as stationary Night blindness.

- There are 5 forms of stationary night blindness^[18]

1] Dominantly inherited congenital nyctalopia (Nougaret type) – it is characterized by a normal fundus appearance, normal or near normal cone ERG & absent rod ERG function.

2] Recessively inherited stationary nyctalopia without myopia(Riggs type) – it is characterized by a normal fundus appearance & normal cone ERG

3] Recessive or x linked congenital nyctalopia with myopia(Schubert-Bornschein type)

4] Oguchi disease – which is recessively inherited. It is characterized by a 2-12 hr delay to attain normal dark-adapted rod thresholds. There is an accompanying change in fundus colour from a golden-brown fundus in the light-adapted state to the normal colour in the dark adapted state.

5] Fundus albipunctatus – which is recessively inherited. It is characterized by a multitude of tiny yellow white spots which extends from the posterior pole, where they are most dense to the periphery. The macula it self is spared & the retinal blood vessels, optic disc, peripheral fields & visual acuity remain normal.

Treatment of Night blindness^[17]

1] Vit. A Therapy=

- Oral administration is the recommended method of treatment. In case of repeated vomiting & severe diarrhea IM injections of water miscible preparations.
- The WHO recommended schedule is as given below

All patients above the age of 1 yr except women of reproductive age –

Vit. A – orally – 2 00,000 IU

IM – 100,000 IU, given immediately on diagnosis & repeated the following day & 4 weeks later.

- Children under the age of 1 yr & of any age who weigh less than 8 kg should be treated with half the dose for patients of more than 1 yr age.
- Women of reproductive age, pregnant or not, those having night blindness, conjunctival xerosis & Bitots spot should be treated daily dose of 100,000 IU for 2 weeks
- For corneal xerophthalmia – full doseage schedule is recommended.

2] Prophylaxis against xerophthalmia

1) **Short term approach** – periodic administration of vit. A supplement as per WHO.

Age group	Dose
Infants 6-12 months old & any children who weigh <8kg	100,000 IU orally every 3-6 months
Children over 1yr & under 6 yrs of age (1-6yrs)	200,000 IU every 6 months
Lactating mother	20,000 IU once at delivery or during the next 2 months
Infants less than 6 months, not being breastfeed	50,000 IU orally given before they attain the age of 6 months

A revised schedule of vit. A supplements being followed in India since August 1992 under the programme named as child survival & safe motherhood (CSSM) is as follows

1 st dose	100,000 IU at 9 months of age along with measles vaccine
2 nd dose	200,000 IU at 18 months of age along with booster dose of DPT / OPV
3 rd dose	200,000 IU at 2 yrs of age

2) **Medium term approach**

It includes food fortification with vit. A.

3) **Long term approach** – It implies promotion of adequate intake of vit. A rich foods such as green leafy vegetables, papaya & drum sticks, eggs, cereals, milk, orange etc.

- Use of sunglasses to protect the eye from UV light, which can cause further eye damage.

CONCLUSION

In ayurveda Naktandhya not described as a particular disease but it is found as a symptom in various Drishtigata Rogas. It can be treated with various ayurvedic preparations & procedures like Anjana, Tarpana and Siravedha.

As per modern, it can be treated by treating underlying cause like vit. A deficiency or retinal diseases. Vit. A supplementation and fruits, vegetables rich with vit. A is useful in treating Nightblindness.

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