

# Ayurvedic Review Article on Netra Sharir

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**Abstract - The Indian system of Ayurvedic medicine has described three basic physiological constituents of human body, viz., dosha, dhatu and mala. Acharya Sushruta was a great surgeon in ancient India known today as the "Father of Shalya Tantra (Surgery)" for inventing and developing surgical procedures. Acharya Sushruta has elaborately described the defining characteristic of Shalakyta tantra. It comprises of the disease of shalakyta tantra as narrated by king of Videha (the author of Nimi Tantra). Acharya Sushruta first ever has described the anatomy of eye in relation to their shape, size of various anatomical components. Susruta delineated fine anatomical divisions mandala of eye. Different Acharyas have their own view in the utpatti (origin) of Netra during garbhawastha kala. Increased demand of Ayurveda science in the present society is required to understand the depth of Ayurvedic principle in an easy mode. Hence an effort has been made to ascertain and establish the knowledge regarding anatomical structure of netra sharir.**

**Keywords: Ayurved, Dristhti Mandala, Patala, Netra**

## INTRODUCTION

In the foetus, the parts originated from akasha mahabhuta are- sound, auditory sensation, lightness, fineness and space; the parts from vayu mahabhuta are – tangibility, sense of touch, roughness, impulsion, structuring of body tissues and maintaining of movements of the body and dosha; the parts belonging to agni mahabhuta are visible form, vision, brightness, digestion and heat; those belonging to apa mahabhuta are taste, sense of taste, coldness, softness, unctuousness and moisture; those belonging to prithvi mahabhuta are odour, sensation of smell, heaviness, steadiness and material form[1]. Acharya Sushruta has explained the subtle form of all the Indriyas is present during the formation of Garbha. Eleven indriyas are originated from the vaikarika ahamkara with all its qualities with the help of taijas ahamkara. These eleven indriyas are as follows: ear, skin, eye, tongue, nose, speech organ, hand, sex organ, rectum, feet and mind. The former five are the organ of perception the

next five are effector organ and the mind are common to both. The five tanmatras are created out of bhootadi ahamkara with all its qualities with the help of tejas ahamkara. These tanmatras are as follows; sabda, sparsh, rupa, ras and gandha tanmatra. These tanmatra possess special qualities of sound, touch, vision, taste and odour. From these tanmatras the bhutas like akash, vayu, agni, jal and prithvi respectively are originated. Netras are agni predominant sense organ [2]. All the indriyas become unambiguous during the third month. Charaka and Kashyap has opined the same that the genesis of all sense organs including eyes and organogenesis occurs in third month of intrauterine life. According to Janaka of Videha, sense organs existence the seat of senses is first formed. After discussion with the various expert of Ayurveda on the topic of formation of embryo, detailing the manner in which the foetus is formed in the uterus of the mother and the mode of manifestation of its various organs Punarvasu Atreya concluded that all the sense organs are developed simultaneously [3]. Both Charaka and Sushruta consider Indriyas as Atmaja bhava. The clearness of senses (Indriya prasada) is attributing of Satmyaja bhava. Acharyas Vagbhata opined Indriyas are developed from the essence part of kapha, raktavaha srotas and mahabhutas, after the digestion of its own agni. Vagbhata explained in detail about the embryological development of each part of the eye, Shukla Mandala is developed from the essence of Kapha and it is Pitraja Bhava, Krishna Mandala developed from Rakta and it is Matraja Bhava. Dristhti Mandala is developed from both kapha and rakta and it has both pitrija and matrija bhavas [4]. Panchbhautika Concept of Embryogenesis of the Eye: The anatomy of the eye is described on the basis of panchabhautika composition like, netrabudbuda (eyeball), pala (muscles of eye) are made of prathivi, rakta (blood) is made of agni, krashna (black portion or cornea) is made of vayu, sita (white portion or sclera) is made of jala, asrumarga (channels of tears or lacrimal ducts) is made of akasha mahabhutas[5].

#### AKSHI BANDHANA [SU. U. 1/19]

- All the parts of the eye are held together by some components. They are sira (veins), kandara (tendons), medas (fat) and kapha.
- Kalakasthi is a type of bone indicating its relationship with krishna mandala.
- Sleshma is the binding material in all joints.

#### MARMA [SU. SHA. 6/27]

- There are 107 marmas (vital points) in human body. Out of which 37 are present above the clavicle. Marmas that directly relate to eye are,
- Apanga - situated below the tips of the eyebrows and about the external corners of eyes. An injury to it causes blindness or defective vision.
- Avarta - situated above and below the eyebrows which results in blindness or impaired vision, if injured.
- Shringataka - the junction of the 4 siras (nerves) that supplies nutrition to nose, ears, eyes and tongue and proves fatal within the day.

#### SIRA [SU. SHA. 7/7]

- There are 700 siras in the human body, of which 40 are major. They are 10 each of Vata, Pitta, Kapha and Rakta. These further divide into 175.
- 8 of vata, 10 each of pitta, kapha and rakthavaha siras supplements the eye.
- Charaka explains, there are 56 siras in eyes, 2 each are responsible for lid movements and one each responsible in supplementing the apanga sandhi.

#### DHAMANI [SU. SHA. 9/5]

- Dhamanis in the human body originate from nabhi and are 24 in number. 10 of them have an upward course, 10 have a downward course and 4 have a transverse course. These 10 up-coursing dhamanis, reaching heart respectively ramify themselves into 3 branches, thus making 30 ramifications in all.
- Out of those 30, two Rupavahi dhamanis maintain visual perception and 2 Ashruvahi dhamanis regulate flow of tears

#### SROTAS [C. V. 5/7-8]

- Srotas are channels that serve the purpose of circulation by conveying the dhatus (body-elements) undergoing metabolic processes.

- Srotas are innumerable and are described with reference to their boundaries and pathological characteristics.

Srotas that directly relates to eye are,

- Annavaha srotas - Viddha or damage to it can make the person blind.
- Raktavaha srotas – Its damage causes redness of the eyes.

#### PESHI [SU. SHA. 5/37]

- The Peshis (muscles) number 500 in all. Of which 400 are in extremities, 66 in trunk and 34 in the above clavicle region in which 2 are situated in eyes.

#### SNAYU [A. S. SHA. 5/76]

- There are 900 Snayus (ligaments), out of which 600 are in extremities, 230 are in lower body and 70 in upper body.

#### ROLE OF DOSHA, DHATU AND MALA

➤ Vata: [C. SU. 12/8] [C. CH. 28/9] [C. CH. 28/22, 23]

- Regulation of sensory organs
- Vyana vayu helps in movement of eyelids (Constriction and Dilatation)
- Prana vayu supports vision
- If vitiated, prevents visual perception

➤ Pitta : [SU. SU. 21/10]

- Pitta is responsible for analysis of objects

➤ Kapha : [A. H. SU. 12/17] [B. P. PU. 3/132] [C. SU. 17/60] [SU. SU. 21/14]

- Tarpaka kapha supplements nutrition through Sneha
- Shleshaka kapha lubricates joints

➤ Rasa : [SHA. PU. 5/13,14]

- Watery portion of eye is the mala of rasa dhatu or kapha drava or A type of ranjaka pitta

➤ Rakta : [C. CH. 15/17] [SU. SU. 15/14] [SU. SU. 35/16] [C. V. 8/104]

- Sira and kandara helps in binding of eyeball in the bony socket
- Increase in rakta dhatu in akshivaha siras cause redness of eye
- Rakta provides moisture and colour

- Mamsa : [C. V. 8/105] [SU. SHA. 5/38]
  - Mamsa provides pushti (health) and any reduction in the level of mamsa dhatu will lead to netra glani, weakness of eye
  - Components of the eye like sira, kandara, snayu, asthi and sandhi get stronger by the support of mamsa dhatu
- Meda : [C. V. 8/106] [A. S. SU. 19/3]
  - Meda provides lubrication
  - Snayu and sandhi are the upadhatu of meda
  - 3rd patala of Drishti is made of meda
- Asthi : [A. H. SU. 11/19]
  - Pakshma is the mala of asthi dhatu
  - 4th patala of Drishti is supported by kalakasthi (Dalhana)
- Majja : [SU. SU. 35/16] [A. H. SU. 11/19] [C. SU. 28/17] [SU. SU. 46/529]
  - Majja dhatu provides excellent eyes.
  - Heaviness and darkness of eye are the features of increase and decrease of majja respectively.
  - The oiliness in the discharges of eye is the mala of majja.
- Shukra : [C. V. 8/109] [C. CH. 15/3,4]
  - Shukra dhatu pleases eyes as it is filled with milk
  - One should increase tejas along with shukra for better vision.
- Mala : [A. S. SU. 19/7] [A. S. SU. 19/10]
 

Increase of Netragata mala will result in :

  - Bahulya : Increase of discharges
  - Dravata : Increased liquidity exudates
  - Kandu, Gourava : Itching and heaviness of eye

Decrease of Netragata mala will produce :

  - Malayana Shosha : The dryness of the eye
  - Malayana Shunyatwa : Lack of functions of vision
  - Malayana Laghava : The lightness

#### DISCUSSION

In this literary study we collected various data from the Ayurvedic classics with the available

commentaries, as well as text books of modern medical sciences, various articles for better understanding of the netra sharir and its comparison with contemporary science. Acharyas have explained prakriti also influences eyes in terms of size, shape of eyes, appearance of eyes, dryness or roughness of eyes, color of eyes, lashes of eyes, movement of eyes and some specific features of eye. These relates to the constitutional variations of the individuals. Acharya Sushruta has described “Sarvendriyaanam Nayanampradhanam[6]”. Acharya Sushruta first ever has described the anatomy of eye in relation to their shape, size of various anatomical components. Sushruta has explained seventy-six different kinds of eye diseases and their treatment in utara tantra. The Netra execute both physiological functions roopagrahana and buddhigrahana as it is the seat of Alochaka pitta. It is predominant of tejo mahabhuta so, there is always dread of kapha to eye. The shape of netra is like suvritam means spherical from all sides and gostanakara means shaped like that teat of the cow (oval shape). Acharya Sushruta described the anatomical parts of the eye consists of mandals are five in number and sandhi and patala are six in number. Sandhi is the “Junctional Areas” between two Mandalas. The Sandhi are 6 in number. Acharya sushruta has described the patala are most important structure of netra sharir. The first patala is the seat of tejas and jala and it can be taken as cornea and aqueous humour; the second patala is the seat of mamsa and it can be taken as iris and ciliary body. The third patala is the seat of medo and it can be taken as vitreous humour, it is a jelly like structure which resembles medas. The fourth patala is the seat of asthi and it can be taken as lens and retina, as it is the seat for linganasha. These are the parts where doshas get localized and produce various types of netra rogas. When doshas invade gradually deeper in the patala it causes timira, Kacha and Linganasa. Netra also consists of Akshi bandhana, sira, pesi, dhamani, marma, snayu and other accessory parts. Thus, whole of patala Mandala, Sandhi, Akshi bandhana, sira, pesi, dhamani, marma, snayu completes the netra sharira. To conclude, we can say that Patala were described by Ancient Acharyas in order to show the severity of the diseases when they involve deeper tissues and no single structure can be correlated with specific Patala accurately. Patala can be taken as different structures in different contexts.

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