

NETRA PATALA IN PRESENT ERA

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ABSTRACT

Shalakyatantra, one of its specialized branch deal with the science of Ophthalmology, Otorhinolaryngology, Oro-dental surgery & Head; was contributed and developed by *Rajrishi Nimi*, the King of *Videha*. The available literature related to this speciality is reproduced from original text of *Nimitantra* in *Uttartantra* of *Sushruta samhita*. So *Rajrishi Nimi* deserves all the credit and regards for *Shalakyatantra* and for being the first eye surgeon on this earth.. Knowledge of the entire body enables to treat diseases successfully. *Sushruta* himself a practical surgeon was the first to advocate dissection of dead bodies is indispensable for a successful student of surgery. Since Surgery require good knowledge of practical anatomy. He has developed a new

tradition to describe the diseases affecting the structures of the eye. He has described gross ocular anatomy in the first chapter of *Uttartantra*. *Sushruta* described the *Netra-sharira* according to *Nidan* and *Chikitsa* into three distinct parts called *Mandala*, *Patala* & *Sandhi*. *Mandalas* are 5 in number and *Patalas* & *Sandhis* are 6 in number. The same division was adopted by *Vagbhatta*, *Madhavakara* and *Bhavamishra* also. The fact regarding the *Netra Sharir* adopted by ancient surgeons is still a matter of debate. The objective of this literary research paper is to find proper co-relation of *Netra patal* to those mentioned in modern ophthalmology.

KEYWORDS: *Shalakya Tantra, Nimi Tantra, Sushruta uttaratantra, Netrasharira, Mandala, Patala.*

INTRODUCTION

Ayurveda is first and oldest medical science, existing since or before the human creation. It is the science which is developing as a result of various discussion and researches from ancient time onwards. It is aimed to protect the health by giving the knowledge of preventive health principles and cure the diseases by explaining the different types of treatment procedures and principles. *Patala* is a unique concept told by *Sushruta Samhita* in *netrasharira* and it is very important in understanding *drishtigata rogas* especially *timira*. This is still a confusing subject among *Ayurvedic* fraternities and many of them have interpreted this in their own way. Here an attempt is made to clarify this subject in special context to the study subject. Relative position of each *patala*, constituting factors, similarity and the clinical picture due to pathology of *patala* on comparative modern grounds is being discussed here.

MATERIAL AND METHODS - All the references collected from the *Ayurvedic* scriptures, Researches, Journals of *Ayurveda*.

DISCUSSION

ETYMOLOGICAL DERIVATION AND MEANING OF PATALA

PATALA: *Pat* + *Klach* *prataya* means layer, veil, covering chest, basket or enclosing/surrounding skin, membrane especially of the eyes, a film over the eyes.^[1] Only six *patalas* are there in the eye. Among the total six *patalas* two are *vartma patalas* (upper and lower) and four others.^[2]

RELATIVE POSITION OF EACH PATALA- First *patala* among 4 *patalas* in *netra* is known as *bhaya* or outer, this means that other 3 are relatively inner to the former. The disease *timira* vitiates the first *patala* followed by the second, third and fourth.^[3] Therefore the first *patala* is the outermost and then the successive ones.

1. FIRST PATALA (BAHYA PATALA)

It is the outermost among 4 *patalas* and covers the *drishti mandala* (Pupil). First *patala* is constituted by *Teja* and *Jala mahabhutas* whereas *Dalhana* opines that this *patala* is constituted by *rakta*. *Vagbhata* has described *doshika/srotas* constitution of eye by virtue of which *raktavaha srotas* forms the black part of the *netra*, i.e. corneal part and *kaphavaha srotas* constitutes the *shweta mandala* i.e. sclera part. It is a known fact that *rakta* represents the *Teja* and *kapha* represents *Jala mahabhuta* in human body. The only clinical

feature of first patala pathology is blurred/indistinct vision^[4] which becomes clear sometimes without any reason i.e. low grade refractive error which can be corrected by accommodation.

II. SECOND PATALA: It is constituted by *mamsa* (muscles) having *kandara* (tendon like properties) giving attachment. Also it should have nutritive as well as contraction and relaxation properties. Structures to inner *patala* having such properties are uveal tract.

Clinical features of Second *patala* can be grouped as follows-

- i) More dimness of vision.
- ii) Floaters in the visual field.
- iii) Scotoma or blind areas in visual field giving rise to field defects
- iv) Accommodation anomalies including presbyopia
- v) Metamorphopsia, Micropsia, Diplopia^[5]

The iris and ciliary body is the most sensitive tissues of the eyeball and develops inflammatory reactions following innumerable exogenous causes i.e. iridocyclitis. Different types of opacities result from inflammatory process in the uveal tract, posterior segment like vitreous or retina, which results into floaters in front of the eye. The other symptoms like metamorphopsia, micropsia, diplopia etc. may be due to retinal pathologies like ARMD, Macular scar, CSCR, ERM etc. Thus morphological, physiological and pathological characters and second patala are alike that of uveal tract, vitreous and retina.

THIRD PATALA

This part of the eye inner to second patala and is subsisting in medas.

Clinical Features of third *Patalagata Timira*

Pupillary leucokoria.

Painless gradual loss of Vision.

Details of even big objects are not visible.

Visual field defects according to location of doshas.

Diplopia, triplopia and polyopia^[6]

The part of the eye inner to the uveal tract, which is very much related to *drishti* i.e. pupil, Lens and vision. The part of the lens is also having *meda* like i.e. viscous, lipo-proteinaceous nuclear as well as cortical fibres.

Clinical feature of 3rd *palata timira* are very much similar to the cortical part opacity of lens. Relative inner position of the lens cortex to 2nd *patala* i.e. uveal tract and retina, its *medas* like properties and the symptoms arising due to its pathology are similar to the cortex of the lens which can taken as third *patala*.

FOURTH PATALA

Innermost *patala* is 4th *patala*. It is constituted by *asthi* hard tissue, which is supportive in function.

CLINICAL FEATURES OF FOURTH PATALA TIMIRA

Painless partial or complete loss of vision.^[7]

Perception to bright illumination unless there is some gross pathology in the *netra*. The clinical features of 4th *patala timira* i.e. complete loss of vision-*Linganasha* occurs in complete opacity of the lens i.e. mature cataract in which nearly complete loss of vision occurs. In advanced cataract also, perception and projection of light is always maintained. It can also related with any central opacity which hamper light entered in retina like central corneal opacity, central choroiditis, central vitreous opacity, macular degeneration and edema, in all situations patient only perceive light. Some cases where no perception of light is present i.e. end stage of retinitis pigmentosa, clinically significant diabetic macular edema, Leber's congenital optic atrophy, phthisis bulbi, endophthalmitis etc, all comes under fourth *patalgata timira*.

CONCLUSION: On the basis of observations, following conclusion are drawn

- 1] Anatomical *netragata patala* are sequential (from outer to inner) covering of eye.
- 2] Physiologically *netragata patala* are *netragata dhatu* i.e. *rasa, rakta, mansa, meda* and *asthi*. When *Asthi dhatu* vitiated person becomes blind called as *Linganasha*.

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