



Review Article

ROLE OF *PANCHAKARMAS* IN TREATMENT OF *TIMIR*: MODE OF ACTION AND CONTRA-INDICATIONS

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ABSTRACT

Drushti or vision is most important sense of human body. Any condition disturbing visual acuity is considered under the title of *Timir* in Ayurvedic literature. Different *Shodhana* and *Shamana* procedures are used in treatment of *Timir*. *Panchakarma* procedures consisting of *Vaman*, *Virechana*, *Basti*, *Nasya* and *Raktamokshana* are chiefly used for *Shodhana* of vitiated humor. But these procedures are associated with various side effects and contra-indication. Injudicious use of such procedures in diseases like *Timir* affecting visual acuity of subject may lead to worsening of disease. Hence, these procedures should be used cautiously during treatment of ocular diseases especially those impairing vision.

KEYWORDS: *Timir*, *Shodhana*, *Panchakarma*, *Vaman*, *Dhoompana*, *Siravyadha*, Impaired vision, Blindness.

INTRODUCTION

Swasthata or well-being of a person, ultimate aim or goal of Ayurveda^[1], can be referred briefly by normal functioning of all body constituents. Normalcy in physiological function and anatomical structure of *Indriyas* that is sensory and functional organs is one of the important criteria of this well-being.^[2] Among all these organs, eyes which are site of *Drushti* (vision) are considered as most important sensory organs. As loss of vision makes sufferer completely dependent on others even for the minor activities, even if all other sensory and functional organs are in their prime.^[3] Hence one must be very careful about maintaining health of eyes by using different therapeutic procedures. While treating any ocular disease, line of treatment confides to use of local therapeutic procedures like *Kriyakalpas*, avoidance of aetiological factors and balancing vitiated humors.^[4] *Shodhana* (total extraction of vitiated humors) and *Shamana* (Pacification of vitiated humors) are two treaties of medicine used in balancing these vitiated *Doshas*.^[5] But among these two, *Shodhana* is more efficient as it evacuates root cause of diseases that is vitiated humors. *Basti* especially *Niruha* (medicated enemas), *Vamana* (Induced vomiting), *Kaya-Virechana* (Induced purgation), *Shiro-Virechana* (*Nasya* or nasal administration of drugs) and *Raktamokshana* (Letting out of blood) are considered as five chief *Shodhana* procedures, also known as *Panchakarmas*.^[6]

Panchakarma procedures are used abundantly as primary therapeutic procedures; still they are also associated with various contra-indications and side effects and hence can't be used in liberally in treatment of ocular diseases especially in case of subjects suffering with disease like *Timir* impairing visual acuity of patient. So these *Panchakarma* procedures should be cautiously used during such conditions like *Timir* where vision is affected profusely to prevent worsening of disease and further affection of vision.

MATERIALS AND METHODS

All the literature about disease *Timir* from various *Samhitas* and *Tikas* that is commentaries on these texts was reviewed thoroughly. References about *Panchakarma* and associated therapeutic procedures mentioned by authors of different Ayurvedic texts were collected and reviewed. Scholarly articles written and published on various platforms related to *Timir* and *Panchakarma* were reviewed.

DISCUSSION

Timir is considered as initial stage of *Drushtigata Rogas* (Diseases associated with vision loss). Early treatment is advised in subject suffering with *Timir*, as neglected or mistreated *Timir* further complicates to more grave conditions *Kancha* and *Linganasha*.^[7] Both these conditions are also taken under the title of *Timir* as these conditions are also

manifested by visual loss.^[8] *Shodhana* (Extraction of vitiated humors) and *Shamana* (Pacification of vitiated humors) are two main streams of Ayurvedic treatment and among them *Panchakarma* procedures are used for the purpose of extraction of vitiated humors and in turn to achieve long term relief.

Concept of Patal and Patalgata Doshdushti :

Timir is condition caused by vitiation *Patalasor* layers of eyeball which are associated with

visual acuity of subject. They are four in number and arranged in circular fashion around chief visual aperture or *Drushti* and when vitiated by humors leads to blurring of vision that is *Timir*^[9] which can be associated with various ocular diseases ranging from keratopathies which leads to mild blurring of vision upto optic atrophy leading to profound visual loss or even blindness.

Table 1: Comparison of Patalgata Doshadushti with ocular diseases causing blurring of vision

Patala (Layer of eyeball)	Clinical presentation of Patalgata Doshadushti	Associated ocular condition, Cornea, Conjunctival epithelium and Aqueous humor	Probable reason for association
<i>PrathamPatala</i> (First Layer) <i>Tejojalashrita</i> [Cornea] ^[10]	<i>Avyakta Rupa Darshana</i> (Blurring of vision) ^[11]	Keratitis Corneal dystrophy	Associated with gradual, painless loss of vision which can be restored completely after treatment due to lesser extent of vitiated humors
<i>DwitiyaPatala</i> (Second Layer) <i>Mansa ashrita</i> [Uveal tissue : Iris, Ciliary body, Choroid] ^[10]	Disturbances in vision like defective perception of distance, inability to see smaller subjects especially near one and visualization of floaters ^[12]	Uveitis	Inflammation of uveal tissue associated with distorted and blurred vision due to refractive shift and presence of inflammatory cells ^[13]
		Uveal effusion syndrome	Transduction of fluid from choriocapillaries into suprachoroidal space ^[14] leads to detachment and visual loss
<i>TritiyaPatala</i> (Third Layer) <i>Medoashrita</i> [Lens and Vitreous] ^[10] and	Blurring of vision for near and distance Vision affected as per the site of humors(Humors residing in lower part : Near vision affected) ^[15]	Cataract	Loss of transparency of lens fibres either due to sclerosis or hydration
		Vitreous degeneration	Manifested by black spots in front of eye in initial stage, associated with liquefaction of gel like vitreous
		Vitreous haemorrhage	Resulted from trauma or retinopathies or systemic disorders. Featured by floaters to vision loss depending on extent
<i>Chaturtha Patala</i> (Fourth Layer) <i>Assthi-ashrita</i> [Lens and Retina] ^[10]	complete loss of vision, Visualization of bright light in initial stage ^[16]	Retinopathies and choroidopathies	Complications of various systemic disorders leads to anoxia of retina characterised by vascular defects, exudates and haemorrhages and in turn visual loss
		Vascular retinal disorders	Vascular stasis especially arterial blockage leads to ischemia of involved part resulting in vision loss
		Retinitis	Slow degeneration of rods and

		pigmentosa	cones starting from equatorial region leads to night blindness progressing to complete loss of vision
		Retinal detachment	Separation of retinal neuroepithelium from its bed ^[17] leads to vision loss depending on its extent
		Age related macular degeneration	Nonhereditary degeneration of macula in elderly subjects leads to permanent loss of central vision
		Optic atrophy	Occlusion of arterial supply of optic nerve or trauma leads to leads to destruction of ganglionic cells of retina ^[18] and profound visual loss
		Papilloedema	Non-inflammatory hydrostatic oedema of optic disc secondary to intracranial pathology leads to obscuration of vision with black-outs

Other conditions like refractive errors, paralytic squint, ciliary spasm leading to distortion of vision and diplopia can be also considered as *Timir*.

Role of Panchakarmas in management of Timir

Prognosis of different types of *Timir* depends on its extent that is involvement of *Patalas* (layers). Ocular disorders caused by vitiation of first *Patala* (layer) are considered as easily treatable, while those caused by vitiation of second *Patala* are hard to treat. *Tritiya Patalagat Timir* (*Timir* affecting third layer) is considered as *Yapya* that is even after aggressive treatment, prognosis is bad.^[19] While, when humors vitiate fourth layer that is in *Linganasha* prognosis is very poor leading to total blindness except in case of *Kaphaj Linganasha* which can be treated surgically.^[20,21]

Generalized line of treatment of *Timir* and other diseases showing similar clinical picture consist of treatment of vitiated humors, either pacification or extraction out of the body, along with other medicines having *Chakshushya* (Good for eyes) properties and local procedures that is *Kriyakalpas*. *Panchakarma* procedures that is *Basti* (medicated enemas), *Vamana* (Induced vomiting), *Kaya-Virechana* (Induced purgation), *Shiro-Virechana* (*Nasya* or nasal administration of drugs) and *Raktamokshana* (Letting out of blood) are chief

therapeutic procedures used to eliminate vitiated humors from body. But as these are major therapeutic procedures, their injudicious and abrupt use of in treatment of ocular diseases may worsen the prognosis instead. And hence deliberate use of such procedures in treatment of ocular diseases is recommended.

Vaman (Induced vomiting)

Removal of vitiated humors especially *Pitta* and *Kapha* from upper orifices that is mouth is *Vaman*. Drugs used for this procedure have *Ushna*, *Tikshna*, *Sukshma*, *Vyavayi* and *Vikasi* nature.^[23] These drugs while circulating from body leads to liquefaction and break in adherence of compact humors and lead them to *Amashaya* or stomach from various macro and micro cavities in the body. Upward movement followed by elimination of these humors from mouth is *Vamana*.^[24] Medicines used for induction of *Vaman* leads to distension of stomach leading to stimulation of vagus nerve and vomiting centre that is chemoreceptor trigger zone in medulla oblongata.^[25] Acting phase of *Vamana* consist of 3 phases before actual emesis.

Table 2: Act-phase of emesis [22,23]

Phase of emesis	Events
Retching phase	Co-ordinated contraction of abdominal muscles
Expulsive phase	Reverse peristalsis from ileum to mouth Intense rise of pressure in stomach and abdominal cavity Vigorous contraction of abdominal muscles
Actual emesis	Relaxation of upper oesophageal sphincter Expulsion of gastric content from mouth

Even though induced, vomiting is violent process in which stomach capacity is discharged through mouth. Increased abdominal pressure in this process leads to increased chest and neck pressure, which in turns block jugular venous blood flow and stasis of blood in head. The final outcome is transient increase in orbital pressure, Intra-Ocular Pressure (IOP) and pressure in vitreous cavity. This increased pressure may lead to worsening of pre-existing diseases, worsening visual prognosis.

Table 3: Ocular disorders in which Vamana is contraindicated

Ocular disorders	Probable cause of contraindication
Keratopathies and Corneal Dystrophies	Increased IOP may affect integrity of cornea leading to progression of disease
Corneal ulceration	Increased pressure and projectile force may deepen the ulcer and lead to perforation especially in case of impending perforation
Corneal thinning and ectasia	Forceful propulsive act and increased IOP may lead to further damage to corneal structure
Glaucoma	Stasis of blood leads to increase in previously raised IOP
Uveitis	Stasis of blood may increase oedema Raised pressure may be associated with damage of uveal tissue mainly ciliary body
Mature and Hypermature Cataract	Pain can felt due to increase in previously raised IOP. Rupture of lens capsule leads to entry of lens material in anterior chamber
Vitreous haemorrhages	Increased ophthalmic pressure and stasis lead to rupture of newly formed fragile vessels leading to increase in haemorrhage
Choroidal degeneration	Increased ophthalmic pressure and stasis lead injury to weakened vasculature and retinal epithelium
Choroidopathies and Retinopathies	Increased pressure may provoke retinal damage Increased ophthalmic pressure and stasis lead to rupture of newly formed fragile vessels leading to increase in haemorrhages
Age related macular degeneration	Increased ophthalmic pressure and stasis lead injury to weakened vasculature and retinal epithelium
Retinitis Pigmentosa	Increased ophthalmic pressure and stasis lead injury to weakened vasculature and retinal epithelium
Ischaemic optic neuropathy	Increased ophthalmic pressure and stasis lead injury to weakened vasculature and retinal epithelium
Optic atrophy	Increased ophthalmic pressure and stasis lead injury to weakened vasculature and retinal epithelium
Retinal detachment	Forceful propulsive act may induce or increase extent of retinal tear
Arterial occlusion	Increased pressure and stasis of blood may damage already damaged vessels
Venous stasis	Stasis of blood may increase venous engorgement
Papilloedema	Stasis of blood may increase exudation and oedema.

As mentioned earlier, drugs used to induce emesis, shows *Ushna*, *Tikshna* nature along with predominance of *Agni* and *Vayu Mahabhuta*. *Drushti* is considered to be *Taijas* showing similar properties and can be easily harmed by things with similar

properties.^[26] Hence *Vamana* is contraindicated in conditions like *Timir*.

But this procedure can certainly be used in certain conditions like chronic conjunctivitis and refractive errors depending on condition of humors in subject's body.

Virechana (Induced Purgation)

Virechana is one of the therapeutic procedures advised in treatment of *Timir* along with other procedures like *Snehapana* (Ingestion of medicated ghee), *Raktamokshana* (Bloodletting), *Nasya* (Nasal drug administration), *Basti* (Medicated enemas) and local medicine application that is *Kriyakalapa*. Procedure of *Virechana* is similar to that of *Vaman* except due to predominance of *Jala* (Water) and *Prithvi* (Earth) extraction of vitiated humors takes place in form of loose motions.^[23] But due to changed constitution of used drugs, expulsive force doesn't affect eyes and ocular adnexa. Furthermore *Virechana* extracts vitiated *Pitta* and *Kapha* from body. It also considered as good in treatment of diseases caused by vitiated *Vata*. It also acts and pacifies *Ras-Rakta* *Sneha Dushti* that is lipid abnormalities vitiating blood. And hence *Virechana* either as a daily laxative procedure for long term or as a one-time purgation is advised in treatment of different ocular diseases irrespective of their stage, so as to conserve vision of subject.

Basti (Medicated Enemas)

Basti is nothing but per-rectal administration of drugs. It has two types depending on drugs used, when these drugs contain decoctions predominantly procedure is called as *Niruha*. While, in *Anuvasana* chiefly used drugs are medicated oils. Rectum is also considered as one of the routes of drug administration, especially for lipid soluble drugs. As drugs used for these enemas have lipid base in form of oil or ghee and hence can be readily absorbed in body. Furthermore, *Basti* is chief treatment for vitiated *Vata*, which is only moving constituent of body and hence can be considered as spread of vitiated humors to site affected with disease.

Nasya (Nasal Administration of Medicines)

Nose is considered as gateway for the head especially brain. Hence nasally administered drugs are effective in pacifying humors situated there and restoring altered normalcy of organs like eye, ear, nose etc, situated in head and neck region. There are various types of *Nasya* depending on properties, form and quantity of drug used. *Nasya*, according to its mode of action, is divided into three categories *Rechan* which extracts vitiated humors from head, *Tarpan* providing energy to the head and organs situated there and *Shamana* pacifying the humors. While depending on form of drugs used, there are five types of *Nasya*, *Navan* using medicated oils, *Avapeeda* using extract from wet paste of medicines, *Dhmapana* using dry-fine powder of medicines, *Dhooma* which is considered as inhalation of smoke from medicated herbs and *Pratimarsha* in which very small quantity of medicated oil is instilled in nose.^[27]

Among all types of *Nasya Dhoompana* (Inhaling smoke from medications) is used predominantly in treatment and prevention of *Kaphaj* and *Vataj* diseases, especially affecting head region.^[28] As used in *Kapha-Vata* predominant condition, used drugs have *Ushna-Tikshna* properties. Such *Kaphahara* treatment is considered to have good effect on *Drushti*^[29], but excessive *Ushnata* and *Tikshnata* of these medications may as well harm the *Drushti* while eliminating *Kapha* and hence it might be possibly contraindicated in *Timir* by Ayurvedic scholars.^[30] The mechanism of action for *Dhoompana* may be considered similar to that of *Vamana* except the initial step, where rise in pressure occurs in mediastinal cavity or chest, not in abdominal cavity, due to forced inhalation and exhalation. Hence *Dhoompana* should be avoided in diseases like corneal dystrophies, retinopathies, atrophic and inflammatory diseases to avoid progress of visual loss.

Basically, nasally administered odorant drug molecules drugs having high lipid solubility are absorbed through olfactory pathway or nasal lymphatics and enter in cerebrospinal fluid and act on structures situated in brain. These drugs are also absorbed from respiratory epithelium situated in nasal cavity and respiratory system and enter in systemic circulation avoiding portal circulation.^[31] And hence this modality is predominantly used in treatment of diseases related with head, brain and associated sensory organs.

Raktamokshana

Raktamokshana or bloodletting is considered as the main line of treatment in management of disorders caused by vitiation of blood. Among various types of bloodletting *Siravyadha* or venepuncture and *Jalukavacharan* or leech application are used commonly in treatment of ocular disorders. During *Siravyadha* blood is extracted from vein and hence it deals chiefly with local pathology at tissue level, by reducing interstitial pressure and pathological infiltrates resulting in increased blood supply.^[32] Still this venepuncture is contraindicated in *Kancha* or *Ragapraota Timir* as it supposed to lead to complete blindness^[33,34] but *Jalukavacharana* that is leech application is advised in this condition.

Kancha can be considered as transformative stage from *Timir* to *Linganasha* and hence it is *Pitta* predominant phase and can be correlated with inflammatory disorders. Bloodletting by leech application, shows anti-inflammatory and immunomodulatory effect^[35] and hence can be more effective in inflammatory conditions like uveitis or retinitis. But overall bloodletting should be avoided in ocular

disorders associated with systemic haematological diseases especially affecting clotting cascade.

CONCLUSION

Panchakarma are chief therapeutic procedures used for *Shodhana* that is extraction of vitiated humors from body. But these procedures can act like double-edged sword and instead of improving health, may lead to deterioration of pre-existing diseased condition and hence should be used judiciously. In case of treatment of ocular diseases *Vaman* (Induced vomiting) and *Dhoompana* (Smoking of medicinal herbs) are strictly contraindicated while bloodletting by venepuncture should be performed judiciously according to progression of *Timir*. While *Virechana* (Induced purgation), *Nasya* (Nasal administration of drugs) and *Jalukavacharana* (leech application) are major treatment procedures advised and used in management of different ocular diseases.

Concept of Purvakarmas

Prior to *Panchakarma*, *Snehana* and *Swedana* are performed as *Purvakarma* to prepare the body for *Shodhana*. *Snehana* is considered as *Kledakrit*, while these *Klinna Doshas* get completely liquefied and make their way to alimentary canal after *Swedana* from where these are being removed from the body.^[36] Hence these procedures are mandatorily performed before any of the *Panchakarma* procedures either locally or on complete body. Among these two, *Snehana* is used by different ways, but here in treatment of ocular diseases it is used either orally for ingestion or locally in form of *Kriyaka* like *Tarpana*, *Anjana* etc. There is no such limitation for use *Sneha* internally but local application should be limited to non-inflammatory conditions avoiding inflammatory conditions like conjunctivitis and keratitis marked by congestion, discharge, foreign body sensation and photophobia showing presence of *Aam Doshas*. While *Swedana* is strictly contra-indicated at delicate sites like *Drushti* and when it comes to *Kaphaj* and *Vataj* diseases where *Swedana* is essential it should be confined to only lids and in milder forms like *Seka* and *Koshna Lepa*^[37] as exposure of eyes to high temperature ranging from 35°C even for 4 hours, daily for a week changes focal index of lens representing opacification.^[38]

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