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, 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. 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. 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. Shodhana (total extraction of vitiated humors) and Shamana (Pacification of vitiated humors) are two treaties of medicine used in balancing these vitiated Doshas. 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.

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 Ayurvedic texts were collected and reviewed. 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. Both these conditions are also taken under the title of Timir as these conditions are also...
manifested by visual loss. 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 Dosha dushti:
Shodhana and Shamana are two main streams of Ayurvedic treatment. Panchakarma procedures are used for the purpose of extraction of vitiated humors. Timir is condition caused by vitiation of Patals or layers of eyeball which are associated with visual acuity of subject.

Table 1: Comparison of Patalgata Dosha dushti 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 |
|--------------------------|------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------|
| Pratham Patala (First Layer) | Tejojalashrita (Cornea) Avyakta Rupa Darshana (Blurring of vision) | Keratitis Corneal dystrophy | Associated with gradual, painless loss of vision which can be restored completely after treatment due to lesser extent of vitiated humors |
| Dwitiya Patala (Second Layer) | Mansa ashrita (Uveal tissue: Iris, Ciliary body, Choroid) | Disturbances in vision like defective perception of distance, inability to see smaller subjects especially near one and visualization of floaters | Uveitis Transduction of fluid from choriocapillaries into suprachoroidal space leads to detachment and visual loss |
| Tritiya Patala (Third Layer) | Medoashrita (Lens and Vitreous) | Blurring of vision for near and distance Vision affected as per the site of humors (Humors residing in lower part: Near vision affected) | Cataract Vitreous degeneration Vitreous haemorrhage | Loss of transparency of lens fibres either due to sclerosis or hydration Manifested by black spots in front of eye in initial stage, associated with liquefication of gel like vitreous Resulted from trauma or retinopathies or systemic disorders. Featured by floaters to vision loss depending on extent |
| Chaturtha Patala (Fourth Layer) | Assthi-ashrita (Lens and Retina) | complete loss of vision, Visualization of bright light in initial stage | Retinopathies and choroidopathies Vascular retinal disorders Retinitis | Complications of various systemic disorders leads to anoxia of retina characterised by vascular defects, exudates and haemorrhages and in turn visual loss Vascular stasis especially arterial blockage leads to ischemia of involved part resulting in vision loss Slow degeneration of rods and cones |

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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 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 (mediated enemas), Yamana (Induced vomiting), Kayak-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 a 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 impeding 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, explosive force doesn’t affect eyes and ocular adnexa. Furthermore Virechana extracts vitiated Pitta and Kapha from body. It also considered as good in acts of diseases caused by vitiated Vata. It also acts and pacifies Ras-Raktagata Sneh Dushit 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 administrated 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, Dhoona 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 Dhumpana 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 administrated 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 Siravyadhaar 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 Kanca or Ragapraota Timir as it supposed to lead to complete blindness[33,34] but Jalukavacharana that is leech application is advised in this condition.

Kanca 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), Naṣya (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 Kriyakalpaśīke 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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