

Takradhara: An Overview with Probable Mode of Action in Diabetic Retinopathy

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ABSTRACT

Shalakya Tantra is focusing on *Urdhwanga rogas*. *Takradhara* is a specialized form of *Shirodhara* which involves the rhythmic application of medicated *Takra* over the forehead facilitating both mental and physical healing. The importance of *Takradhara* lies in the qualities of its primary therapeutic agent, *Takra*, which has specific properties like *Rukshta*, *Vata-Kaphashamka* etc. Diabetic Retinopathy is a highly specific vascular complication of Diabetes Mellitus. It is one of the commonest causes of moderate to severe blindness. *Prameha* is basically a *tridoshaja Vyadhi* with a predominance of *Kapha Dosha*, where the *Dravaguna* of *Kapha* is increased. Involvement of vital organs like eye in *Prameha Samprapti* has been mentioned by Acharya Charaka as *Netra Upalepa* wherein *Upalepa* is the *Prakupitha Kapha Karma*. *Sthanasamshraya* of vitiated *Doshas* along with *Ksheena Ojus* in *Urdhwagami siras* will affect the eye. *Takradhara* has high effects on Diabetic retinopathy mainly in Proliferative stage. When considering in Shalakya Tantra, it is very effective in conditions like Macular oedema, Proliferative Diabetic Retinopathy, Central Serous Retinopathy etc. This article deals with the overview about *Takradhara* in general and its probable action in Diabetic Retinopathy.

Keywords: *Takradhara*, Diabetic Retinopathy, *Pramehajanya Netraroga*, *Takra*

INTRODUCTION

Shalakya Tantra is a branch of Ayurveda also called as *Urdhwanga Chikitsa* which is focusing on treatment of body parts above the neck, and maintenance of healthy state of the same. The treatment methods in Shalakya Tantra not only includes internal medications but also some surgical and Para surgical procedures. *Kriya Kalpa* procedures are a group of treatments which is mentioning specially for Shalakya Tantra diseases. *Panchakarma* therapies also can be adopted as beneficial methods in condition where it needs inevitably. *Panchakarma* is a comprehensive set of therapies aimed at body detoxification, longevity and disease prevention. These procedures have a profound impact on health preservation and disease management. Among these, *Shirodhara*- a process involving a continuous pouring of medicated oil, *Kashaya*, *Ksheera*, *Takra* etc over the forehead- has gained prominence for its effect on mind and body, especially in psychosomatic conditions.

Takradhara is notable for its primary ingredient, *Takra* which offers unique physiological and therapeutical properties, such as lactic acid for skin and scalp health, and *Vata-Pitta* balancing effects. The process of *Takradhara* may accelerate the functions of *Tarpaka Kapha* and may also bring in the specific action as demanded by the pathological condition like blockage of channels by *Kapha*, which may further lead to microvascular occlusions, bleeding, oedema etc. Action of *Takradhara* can be understood by two

ways- Pharmacological action of substances absorbed through the skin (Therapeutical effect) and the procedural effect of *Takradhara* induced by the somato-autonomic reflex through thermosensor or pressure sensor in the skin or hair follicles via the trigeminal cranial nerve. It also helps in the proper nourishment of retina, thereby preventing further vascular leakage and *Chakshushya* property of the drugs helps in the improvement of vision.

Takra possesses *Pancharasa* with the exception of *Lavana rasa*. *Takra* has *Amla Vipaka*, *Ushna virya* and *Vata-Kaphaghna* properties. *Takradhara* is effective in conditions like *Klama*, *Apachi*, *Sirogourava*, *Unmada*, *Prameha* and those by a predominance of *Vata* and *Kapha*. In *Shalakyata* Tantra, most of the diseases have an involvement of *Kapha dosa*. When it is coming to the nervous coat and vascular coat of eyeball, the diseases which are affecting retina, macula, optic nerve, uveal tissue etc have more of *Kapha Pitta* and *Rakta dosa dusti*. Because of *Ushna*, *Ruksha* qualities, *Takra* can reduce the *Avarana* caused by *Kapha* which is mostly the reason for the vitiation of other dosas.

Diabetic Retinopathy is a complication of Diabetes Mellitus wherein the microvascular structure eye gets affected. It is one of the leading causes of blindness around the world being a progressive disorder of eye that occurs in different stages. Prevention and management of chronic conditions is an important part of our overall health, especially when it comes to eye.

DIABETIC RETINOPATHY IN AYURVEDA

Eye has given with utmost importance as it is one among the twelve *Pranas* explained in classics. According to Ayurveda, *Prana Vayu*, *Vyana Vayu*, *Chakshurvaisheshika Alojaka Pitta*, *Tarpaka Kapha* are involved in the maintenance of normal functioning of eye. Eye is especially vulnerable to *Kapha Dosha*. *Prameha* is basically a *tridoshaja Vyadhi* with a predominance of *Kapha Dosha*, where the *Dravaguna* of *Kapha* is increased. Involvement of vital organs like eye in *Prameha Samprapti* has been mentioned by Acharya Charaka as *Netra Upalepa* wherein *Upalepa* is the *Prakupitha Kapha Karma*. *Sthanasamshraya* of vitiated Doshas along with *Ksheena Ojus* in *Urdhwagami siras* will affect the eye. As *Netrapatalas* have some *Ashrayashrayibhava Sambandha* with some dhatus *Patalas* get afflicted because of the untreated or chronic *Prameha*. It is caused because of increased *Malaroopi Pitta* resulted from *Dhatwagnimandya*. Then it further causes vitiation of *Kapha* and *Rakta* resulted in affliction of *Drushti Mandala* and further causes conditions like *Timira*, *Kacha*, *Linganasha* etc.

Fundoscopy changes in Diabetic Retinopathy such as hard exudates, Cotton wool spots, microaneurysms, intraretinal hemorrhages and neovascularization can be explained through Ayurveda *Samprapti*. Hard exudates are lipid residues of serous leakage which settle on to the outer layers of retina. *Prakupitha Kapha* along with *Raktadharakala* which resides on *Mamsa* may result in hard exudates. Local expansion of capillaries due to the disruption of internal lining of blood vessels lead to microaneurysms. *Sirasaithilya* occurring due to *Dhatukshaya* in *Prameha* as a result of *Apatarpana* and associated *Siragranthi* due to *Raktavaha Srotodusti* can be considered for this microaneurysm. Intraretinal hemorrhages are happened due to *Vimargagamana* of *Dushita Rakta* and *Atipravriti* of *Vyana Vayu*. It can be considered as *Urdhwagata Raktapitta*. Cotton wool spots are infarcts from capillary occlusions in the nerve fibre layer. Which is also because of the vitiated *Kapha* and *Medas* due to *Avyayama*, *Diwaswapna*, *Medhyanam Atibhakshanam* and *Varunya Atisevana* which further leads to *Medovaha Srotodusti*. Neovascularization is the emergence of new tiny blood vessels on the retinal non-perfusion areas to compensate hypoxic conditions. There we can consider *Avarana* of *Prana Vayu* by *Vyana Vayu* which further causes vitiation of *Kapha* and *Medas*, result in *Atipravritti* type of *Srotodusti* in *Raktavaha srotas*.

IMPORTANCE OF TAKRA

Charaka Samhita mainly underlines the importance of *Takra*. *Takra* should be used in two forms, *Sasneha Takra* and *Ruksha Takra*. On the basis of the cream content *Takra* can be classified as,

- *Ruksha Takra (Uddhrtha Sneha)*- *Takra* without cream
- *Eeshatsnigdha (Ardhoddhrtha Sneha)*- *Takra* with partially removed cream
- *Snigdha Takra (Anuddhrtha Sneha)*- *Takra* with cream

Properties of *Takra*:

- *Deepana, Rochana, Varnya, Grahi*
- *Kapha-Vatashamaka*
- *Tridoshaghna: Pittahara by Madhura Vipaka, Kaphahara by Kashaya Rasa, Ushna Virya, Ruksha Guna and Vikashitwa, Vatahara by Madhura and Amla Rasa and Snigdha Guna.*

Butter milk is a rich source of Pottasium, Calcium, Phosphorus, Vitamin B12 and Riboflavin.

MATERIALS AND METHODS:

Details regarding *Takradhara* procedure can be taken from *Samhitas* like Charaka, Ashtanga Hridaya and Ashtanga Sangraha. Other proven studies are there on the same topic and which are available in many publications.

Takradhara

Purvakarma:

To prepare *Takra*, take 1.5 litres of milk and dilute it four times with water and add 100 gm of *Musta* is next sieved out; the ready milk needs to soured for the night. The following morning, the curd is churned with *Amalaki kwatha* to make the *Takra* for *Dhara*. To prepare *Amalaki Kwatha* the dried *Amalaki* fruit should be boiled with 16 times water and then reduced to 1/8th of its original volume. After the procedure some of that is used to wash the head. *Amalaki* is a fruit that has been dried for at least a year in sunlight and air. *Amalaki* should be taken in the form of a coarse powder, and quality fruits that are free of contamination should be thrown away. Depending on the condition, milk is used to make *Takra*, and it can be medicated with *Argwadhadi Churna, Usheera, Hreebera, Chandana, Yasti* or *Panchagandha Churna*.

Pradhankarma:

Balataila, Ksheerabala taila, or any other specialized oil according to disease state may be applied over the head as a practice. *Abhyanga* over the body was recommended by some practioners. The patient's ear should be filled with cotton, and the eyes should be covered with cotton guaze. Every aspect of the operation, as well as the benefits and restrictions of the therapy should be explained to the patient and the family members. The tip of the *Dharavarti* should be 6-7 cms(4 *Angula*) above the patient's forehead. The overall length of the *Varti* should be three times 18-21 cm. The *Takra* needs to be collected and poured back into the container. The attendant keeps swinging the vessel across the patient's head to ensure that the entire forehead will receive *Takra*. For better results, the head and body are gently rubbed simultaneously. *Dhara* should never be poured from a lower height or higher height than recommended since this could make the condition worse. In short, all the steps are the same as for *Sirodhara*, however the *Takra* should not be heated or used more than once. Buttermilk used in *Dhara* should be freshly prepared daily. For seven to fourteen days, *Takradhara* is practiced usually and the procedure lasts for about 60-120 minutes.

Pashchat Karma

It is recommended for the patient to rest for the same amount of time as the treatment, then take a bath.

After *Dhara*, the head is cleansed with *Amalaki Kwatha*. Following towel drying of the wet head, *Tala Dharana* may be performed. *Rasnadi Choorna* is very common in practice for *Taladharanara*. It is to be rubbed on the scalp's crown for few seconds. By doing so, it will combat the cold induced by the treatment. Patient should consume *Pathyaahara* and should not directly expose to wind, dust, sunlight and rain. A proper diet plan and lifestyle should be prescribed to patient and adhere to this strictly during and after treatment.

ACTION OF *TAKRA* IN DIABETIC RETINOPATHY

The first line of treatment in Diabetic complication is the management of Diabetes. In Diabetic Retinopathy, it affects the eyes which result in poor vision or even blindness. Ayurveda treatment principles can help to arrest the progression of the disease. There are two stages of Retinopathy, Proliferative and Non-Proliferative.

A wide variety of treatments are considering the stages of Retinopathy. All the treatments are mainly focusing on reducing the *Kapha Dosha* and thus associating vitiations of *Doshas* and *Dhatus*. Studies have shown that *Takradhara* has high effects on Diabetic retinopathy mainly in Proliferative stage.

The process of *Takradhara* may accelerate the function of *Tarpaka Kapha*, and may also bring in the specific action as demanded by the diseased condition like blockage of channels by *Kapha*. It can be taken as microvascular occlusion which is the basic pathological process in Diabetic Retinopathy. It also helps in the proper nourishment of retina, thereby preventing further vascular leakage and the *Chakshushya* property of the drugs help in improving the vision. As Diabetic Retinopathy manifests secondary to *Madhumeha*, the disease is termed as *Madhumehajanya Upadrava*. In *Madhumeha* patients *Dushita Kapha* vitiated *Medas*. Action of *Takradhara* can be understood by two ways- Pharmacological action of substances absorbed through the skin (Therapeutical effect) and the procedural effect of *Takradhara* induced by the somato-autonomic reflex through thermosensor or pressure sensor in the skin or hair follicles via the trigeminal cranial nerve. It also helps in the proper nourishment of retina, thereby preventing further vascular leakage and *Chakshushya* property of the drugs helps in the improvement of vision.

Many studies and clinical practices are showing that *Takradhara* is high benefits on reducing signs and symptoms related to Diabetic Retinopathy.

CONCLUSION:

Takradhara is a very effective therapeutic procedure in many general conditions. When considering in Shalakyta Tantra, it is very effective in conditions like Macular oedema, Proliferative Diabetic Retinopathy, Central Serous Retinopathy etc. The procedure and effects are subjected for studies many times in the past and every study is concluding that *Takradhara* is a very effective and progress giving procedure that can be given to many eye conditions without much complications.

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