



EFFECT OF KSHEERBALA TAILA NASYA IN MIGRAINE WITH SPECIAL REFERENCE ARDHAVABHEDAK: A LITERARY REVIEW

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ABSTRACT

Migraine is a neurological disorder that is frequently characterized by intense and debilitating headaches. According to the records, Migraine tends to affect people aged 15 to 55 years and the extreme pain or headache can last for hours or even days. Migraine is the third most prevalent and 7th leading cause of disability worldwide. There is no direct reference of Migraine in Ayurveda, but signs and symptoms of migraine can be co-related with Shiroroga, one of which is Ardhavabhedak. In Ayurveda, Nasyakarma plays a very important role in the management of Urdhvajatrugat Vikara. Thus an attempt has been made to evaluate the probable efficacy of polyherbal formulation Ksheerbala Taila in Ardhavabhedak.

Keywords: Ardhavabhedak, KsheerbalaTaila, Migraine, Nasyakarma, Neurological, Shiroroga and Urdhvajatrugat vikara.

INTRODUCTION

Migraine is primarily a headache disorder. It is derived from a Greek word that means half-head. The pain usually begins early in the morning, on one side of the head. It may occur as often as several times a week or only once every few years. The amount of pain varies from fairly mild to almost unbearable.¹ The clinical presentation of migraine differs from patient to patient and time to time. Migraine is the 3rd most prevalent and 7th leading cause of disability worldwide.² It is more common in women than in men (2:1 to 3:1). Family history is present in more than 60% cases.³

There is no direct reference of Migraine in Ayurvedic text but its symptoms come under Shirahshool which is a Nanatmaj Vyadhi of Vata dosha⁴. Also the disease Ardhavabhedak described under Shiroroga caused by vitiated vatadosha, shows symptoms like half-head pain with intermittent episodes which are similar to that of migraine⁵. Acharya Sushrut has mentioned 11 types of Shiroroga one of which is Ardhavabhedak in which pain is felt in the nape of the neck, eye brows, temporal region, ears, eyes, half portion of the frontal region⁶ resembling paroxysmal unilateral headache associated with vertigo and pain of varying intensity. Very similar in the line of Migraine.

Ayurveda has not mentioned direct treatment for Migraine but Ksheerbala taila is mentioned beneficial for Nanatmaj vyadhis of vata dosha which contains Bala moola, Tila Taila and cow milk⁷. Shirahshool and Ardhavabhedak is caused due to vitiated Vata dosha only. Thus Ksheerbala Taila can be used for the treatment of migraine.

Migraine affects head region i.e. Urdhvajatrugat sthana. Nostrils have been addressed as doorway to brain. 'Nasa hi shirasodwaram'. Nasal route of administration is the best route in

treating *urdhvajatrugat vikara*⁸. Hence, due to all above reasons, effect of Ksheerbala taila nasya on migraine has been selected for review study.

REVIEW OF DISEASE: MODERN ASPECT

Migraine is a familiar disorder characterized by recurrent attacks of pulsatile headache usually unilateral widely variable in intensity, frequency and duration. It is the most common cause of headache which is a neurovascular disease and it often associated with visual disturbances, nausea, vomiting, and hallucinations⁹.

Migraine Aura: Migraine aura is defined as a focal neurological disturbance manifest as visual, sensory or motor symptoms. It is seen in about 30% of patients, and it is clearly neurally driven.¹⁰ Visual aura has been described as affecting the visual field, suggesting the visual cortex, and it starts at the center of the visual field, propagating to the periphery.¹¹

Pathophysiology

One of the most important aspects of the pathophysiology of migraine is the inherited nature of the disorder.¹² It is clear from clinical practice that many patients have first-degree relatives who also suffer from migraine.

It can be divided in three phases¹³

- 1) Brain (stem) generation
- 2) Vasomotor activation- Arteries within and outside brain contract and dilate
- 3) Activation of cell of medullar trigeminal nucleus caudalis and release of neuropeptides- Brain's head and face pain-processing mechanism.

The trigemino-vascular system and its cranial autonomic reflex connections, the trigeminal-autonomic reflex, act as a feed-forward system to facilitate the acute attack.

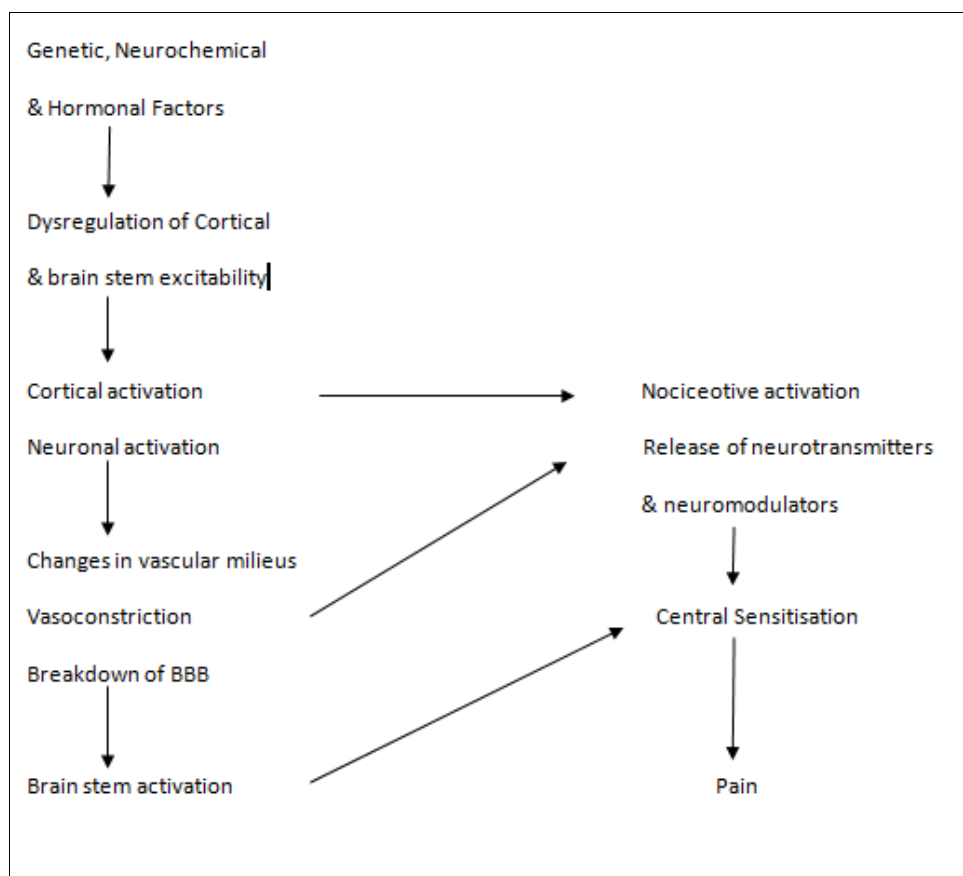


Fig 1: Pathophysiology of pain in Migraine¹

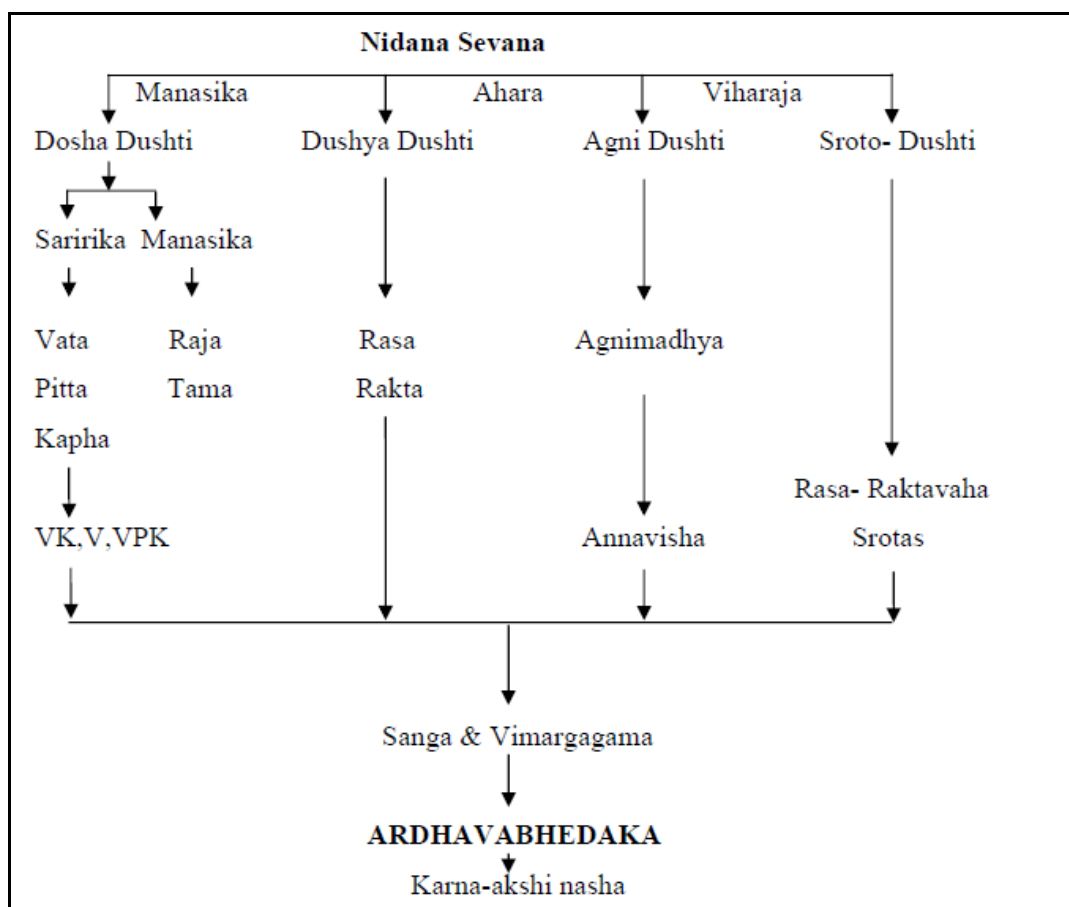


Fig 2: Pathophysiology of Ardhavabhedak

Types¹⁴

- 1) Classic migraine (Migraine with aura) - Headache associated with characteristic premonitory sensory, motor or visual symptoms.
- 2) Common migraine (Migraine without aura) - There is no focal neurological disturbance preceding the occurrence of headache.

Management¹⁵

Pharmacological- Analgesics, anti- emetics, NSAIDs
 Non- pharmacological- Relaxation therapy, biofeedback therapy, hypnosis

REVIEW OF DISEASE: AYURVEDIC ASPECT

Shirahshool is one of the 80 Nanatmaj vyadhis of Vata Dosha⁴. Ardhavabhedak is described under Shiroroga. Word ‘Ardha’ is formed from Rhu dhatu and Dhanpratyay which means Vibhaga. Thus Ardha means half forming a half.¹⁶ Ava is used as visargapada¹⁷. Bhedak word is formed from bhid dhatu and yevul pratyay which means vidaraka or bhedaka¹⁸. Thus Ardhavabhedak gives the meaning of breaking, cutting or dividing into halves which depicts the nature of pain felt.

Etiology of Ardhavabhedak^{19, 20}

Aharaj hetu- Rukshannasevan, Atyashana, Adhyashana
 Viharaj hetu- Atimaithun, Vegasandharan, Ayasa, Vyayama, Purvavayusevan, Himsa.
 Mansik- Manasantap, Rodana, Krodha, etc.

Charak, Madhav Nidan- Vat-Kaphaj²¹

Sushrut- Trodoshaj²²

Vagbhat- Vataj²³

Dushya-Rakta²⁴

Strotas-Raktavaha

Strotodushiti- Sanga, Vimargagaman

Udbhavasthana- Aampakvashaya

REVIEW OF DRUG: AYURVEDIC VIEW

Marga- Madhyam²⁵

Adhishthan- Shira (Head and its appendages)

Sadhyasadyatva- Sadhya

Symptoms

According to Charak Samhita- Manya, Bhru, shankha, karna, akshi, lalata ardhe ativedana²⁶

According to Sushrut Samhita-Uttamange Ardha bhage toda, bheda, Bhrama, shool¹⁹

According to Ashtang Hridaya- Vataj shirahshool in Ardha bhaga²⁰

Treatment

Chatuhsneha, Shirovirechana, Snehana, Swedana, Anuvasana Basti, Nasya, etc.^{27,28}

Review of Drug: Modern View

Bala-Sida cordifolia has Anti- inflammatory, Analgesic, Anti-stress property. It has also been used as CNS depressant and Hypotensive agent. It also has significant Anti- oxidant activity.²⁹ It contains alkaloids mainly Ephedrine, vasicinol, Phenethylamine, choline. They are active phytoconstituents responsible for the relief of pain and used in debility cases.³⁰

Godugdha- It helps in suppressing the inflammation of nerves and reducing pain symptoms.³¹ Cow milk is known to be useful in vascular hypertension.³²

Tila taila- It being lipophilic has greater affinity through cell walls of nasal mucosa.³³ It also possesses anti- inflammatory and anti-oxidant properties.³⁴ The anti-oxidant substance found in Sesame oil directly increases nitric oxide and decreases secretion of endothelin-1 leading to vasodilation.³⁵ It protects oxidation and inactivation of NO which in turn enhances vasodilation and reduces peripheral resistance.³⁶

Table 1:: Ingredients of Ksheerabala taila and their properties

Dravya	Latin name	Rasa	Virya	Vipaka	Guna	Doshagnata	Karma
Bala ³⁷	<i>Sida cordifolia</i>	Tikta, Madhura	Sheeta	Madhura	Snigdha, Laghu, Pichchila	Vata-pittahara	Balya, Bruhaniya
Godugdha ³⁸	-----	Madhura	Sheeta	Madhura	Guru	Vata-pittahara	Vrishya, Ojasya, Dhatu vardhan
Tilataila ³⁹	<i>Sesam indicum</i>	Madhura, Kashaya	Ushna	Madhura	Guru, Snigdha	Vatahara	Vedanasthapaka, Balya, Deepan

Therapeutic uses

Bala- Bala root alone or in combination with saindhava or Godugha is used in shirahshool, manyastambh and other vataj diseases.⁴⁰

Godugdha- It is beneficial in Mansik roga, shool, bhrama, raktapitta, shrama, etc.⁴¹

Tilataila- It pacifies netrashool, shirahshool and is beneficial for vision.⁴²

REVIEW OF NASYA KARMA: MODERN VIEW

The nasal delivery seems to be a favorable way to bypass the obstacles for blood - brain barrier (BBB) allowing the direct drug delivery in the biophase of central nervous system (CNS) active compounds.

The absorption via nasal route is carried out in 3 ways:⁴³

- 1) By general blood circulation, after absorption through the mucous membrane.

- 2) By direct pooling in the venous sinuses of the brain via the inferior orbitalic veins.

- 3) By direct absorption into the CSF.

Apart from the small emissary veins entering the cavernous sinuses of the brain, a pair of venous branches emerging from the alae nasi will drain into the facial vein. These ophthalmic veins on the other hand also drain into the cavernous sinuses of the meninges, and in addition neither the facial vein nor the ophthalmic veins have any valves. Therefore, there are the more chances of the blood draining from the facial vein into the cavernous sinus in the lowered head position.⁴³

Many nerve endings which are arranged in the peripheral surface in the mucous membranes, olfactory, trigeminal etc., gets stimulated by nasya dravya. This results in better circulation and nourishment of the organs and diseases subside fast.⁴⁴

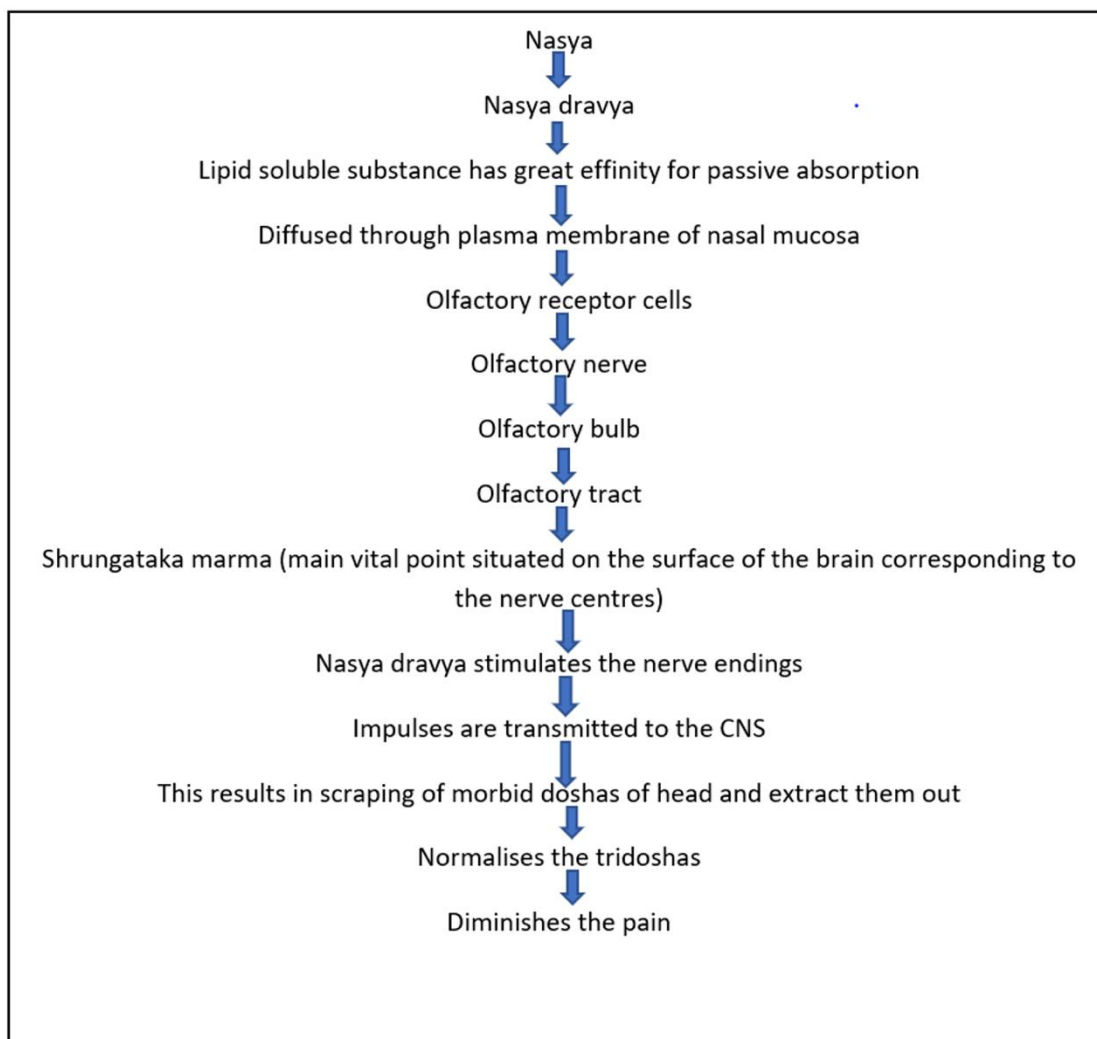


Fig 3: Physiology of Nasya Karma according to modern view⁴⁴

REVIEW OF NASYA KARMA: AYURVEDIC VIEW

The word Nasya suggests the nasal route of administration of various drugs. Administration of medicine or medicated oil (siddha sneha) through the nostrils is called Nasya karma.

Types of Nasya

Acharya Charaka has classified the nasya according to the form of medication used for the nasya karma. They are Navana, Avapida, Dhmapana, Dhuma and Prathimarsha nasya.⁴⁵ Acharya Vagbhata had classified nasya types according to its action on the body. They are Rechana, Tarpana and Shamana.⁴⁶ Acharya Sharangdhara has stated two types- Rechana and Snehana⁴⁷. According to Acharya Sushruta the types are- Shirovirechan, Pradhama, Avapidan, Pratimarsha nasya.⁴⁸

Shamana nasya, alleviates the doshas and help in reducing the kshobha of the marma and indriyas caused by the vitiated doshas. Bruhana nasya provides nourishment to the shiro indriya(head region) and other organs. Sneha nasya is used for oiling which gives feeling of laghuta in shira. It gives strength to shoulder, neck, chest and increases eye sight.⁴⁹

Acharya Charak has stated that a wise vaidya should perform Nasyakarma in all types of Shiroroga as the medication given through nostrils spreads throughout the shira pradesh and cures the shiroroga.⁵⁰

AcharyaCharak while explaining the indication for the Nasya in siddhisthana has emphasized that the Nasya drug usually acts through the absorption by the Shringataka marma. Snehanasya after reaching the cranial cavity through nostrils removes the obstructed doshas from the cranial cavity and won't let it stay there.⁵¹ In Ashtanga Samgraha, it is explained that Nasa being the door way to Shira (head), the drug administered through nostrils, reaches Shringataka by Nasasrota and spreads in the Murdha (Brain) taking route of Netra(eye), Shrotra (ear), Kantha(throat), Siramukhas (opening of the vessels) etc. and scrapes the morbid Doshas in supraclavicular region and extracts them from the Uttamanga.⁵²

DISCUSSION

Ardhavabhedaka is an ailment in which pain is felt in the nape of the neck, eyebrows, temporal region, ears, eyes, half portion of the frontal region resembling paroxysmal unilateral headache associated with vertigo and pain of fluctuating intensity very similar in line with the Migraine.

The Modern drug available for Migraine has a lot of side effects (gastric distress, etc.), also they cause drug dependence, drug withdrawal syndrome, relapse of attack within hours and chances of getting chronic headache. Several drugs cannot be prescribed in migraine associated with other medical illness, which remains a drawback.

In contrast to that Ayurveda has a variety of medication in the treatment of various types of Shiroroga. All Shirorogas are due to Tridosha Prakopa and primarily due to Vata or Vata-Kapha. Thus, Ardhavabhedaka, a Sadhya type of Shiroroga can be best achieved with Aushadhis having Ushna, Snigdha Gunas and having Vatahara or Vata-Kaphahara properties. Ardhavabhedaka is best treated with Ghrita, Taila and Majja, Shiro Virechana, Kaya Virechana, Nadisweda, Niruha and Anuvasana, Basti, Upanaha and Shiro-basti.

Acharya Vagbhata has mentioned the beneficial effect of Nasya as Ghanonnata Skandha and Griva. Hence, the procedure Nasya karma is indicated to uproot this deep-seated disease and while explaining the Phalashruti of Taila Yoga have said that Taila mitigates the Vata at the same time it doesn't increase the Kapha. Hence it is programmed to find the effect of Nasya karma in Ardhavabhedaka with the above-mentioned drug.

Ksheerabala Taila which has got the supreme command over the Vata rogas was used for nasya. It is Vata Pitta Shamak and Guru, Snigdha (heavy and unctuous) in Guna (quality) which is opposite to the Vata qualities thereby capable of mitigating the prakupita Vata dosha. Hence beneficial in neurological origin of pain. Also imparts nourishment to the sense organs and strengthens all the sense organs. It also facilitates rejuvenating effect to the body tissues. Doshagnata of all the constituents are Kapha-vata shamak and the main Doshas of Ardhavabhedaka being the same will enhance the efficacy of the given Nasya. Rogagnata of the drugs are Shoola prashamana, Ruja prashamana, Shiroroga and Bhrama. Karma of all the three Dravyas are Vedanasthapana, Kaphagna, Bhramahara. Hence these Dravyas will act on the cardinal symptoms of the disease Ardhavabhedaka i.e. Vedana.

As per various modern research studies the ingredients of Ksheerabala Taila have also been proven for their anti-inflammatory and antinociceptive action. In Migraine, activation of nociceptive receptors and vasoconstriction release various neurotransmitters and neuromodulators which ultimately leads to pain. Bala shows analgesic, anti-inflammatory, vasodilation and hypotensive properties. Several studies have suggested that tila taila is good source of riboflavin, a co-enzyme in electron transport chain to be effective in Migraine.

As we go through the wide therapeutic use of Ksheerabala Taila one can consider it as one of the miraculous herbal formulations of Ayurveda. It has several effects like antioxidant, vasorelaxing, anti-nociceptive action. A comprehensive and systematic study is required for identification, documentation of drug, which may provide us a meaningful way to see thoroughly how to develop the traditional knowledge of the herbal medicines. In view of the nature of the drug, more research work can be done so that a drug with such different potencies will be available in the future.

CONCLUSION

Ksheerabala taila is a polyherbal formulation. Antinociceptive action of Ksheerabala Taila is discussed in current research paper with the study of different texts, articles and research studies. From these studies we can conclude that contents of Ksheerabala Taila possess Analgesic, anti-inflammatory, vasodilation and hypotensive properties activity. Hence Ksheerabala taila nasya can be useful in the patients of Ardhavabhedaka.

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