



Review Article

ROLE OF TWAGADI GUTIKA IN PAIN MANAGEMENT

Akansha Uniyal^{1*}, Vishal Verma², Sheetal Verma³

*1PG Scholar, ²Associate Professor, Department of Shalya Tantra, Rishikul Campus, ³Associate Professor, Department of Samhita, Sanskrit Evum Siddhanta, Gurukul Campus, Uttarakhand Ayurved University, Haridwar, Uttarakhand, India.

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ABSTRACT

Pain is any suffering or discomfort, whether physical or mental, brought on by an illness or injury. Regardless of how minor the pain is, it still causes discomfort and interferes with daily activities for the person. Pain is referred to in Ayurveda as the premonitory indicator and as symptoms of various diseases under different names, such as *Shool*, *Ruja*, and *Vedana*. Acharya Sushruta states that *Vata Dosha* is the primary source of all pain, or "*Vatat Rute Nasti Ruja*." Even with the latest developments in anaesthesia and pain management, managing pain is still difficult. *Vata Dosha* is regarded as the root cause of all types of pain. The nervous system and body movements are governed by the *Vata Dosha*. An imbalance in it can result into difficulty with joint mobility and function, which can exacerbate disorders like arthritis and musculoskeletal pain. Pain associated with *Vata Dosha* is frequently described as throbbing, aching, or acute in nature. Ayurveda may offer hope in a world where everyone is searching for ways to reduce and eliminate pain by helping people comprehend its true nature and offering fresh approaches to its management. Ayurveda provides a variety of treatment modalities to manage pain, depending on the origin, type, and duration of the condition. The present article aims at throwing light on one of the herbal preparations, *Twagadi Gutika*, mentioned in Ayurveda Samhita, for *Vata dosha* disorders and specifically for managing pain.

INTRODUCTION

The most important basis for all of life's accomplishments is good health. Maintaining one's health, or "*Swasthasya Swasthya Rakshanam*," is the goal of Ayurveda. WHO has defined it as "Health is a state of complete physical, mental and social wellbeing, and not just merely the absence of diseases or infirmity." Pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of damage". It is a subjective experience. In many medical disorders, pain is a primary symptom and the most prevalent reason for consulting a doctor.

It may have an adverse effect on an individual's overall well-being.

Pain can be broadly classified according to its aetiology and duration. [1]

According to aetiology, it is of the following types:

- 1) **Nociceptive pain:** It is caused by stimulation of sensory nerve fibres that respond to noxious stimuli. This type of pain is generated and maintained by inflammatory mediators released as a result of some disease. It can be further classified as –
 - a) **Visceral pain:** It is of diffused type, difficult to locate. It is generally referred to a distant superficial surface. It is of dull and squeezing type in nature.
 - b) **Deep somatic pain:** It is caused by initiation of nociceptors in tendons, ligaments, blood vessels, bone, fascia and muscles. It is categorised by dull, aching and poorly localized pain.

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- c) **Superficial somatic pain:** It is caused by initiation of nociceptors in skin or other superficial tissues. It is categorised by sharp, well defined and clearly located pain.
- 2) **Neuropathic pain:** It is caused by the malfunctioning of central or peripheral nervous system. Peripheral neuropathic pain is burning, tingling, stabbing or needle prick like.
- 3) **Physiological pain:** It is caused as a result of acute injury.
- 4) **Psychosomatic pain:** It is a chronic pain which at all times has an emotional and behavioural factor.

According to duration, it is of the following two types:

- 1) **Acute pain:** It is generally due to the natural response to an injury. It gradually disappears as soon as the noxious stimulus is withdrawn or as healing progresses.
- 2) **Chronic pain:** It can be either due to some ongoing pathological condition or a pain which has existed longer than three months. It is usually associated with some sort of disability and significant behaviour response.

Besides the above classification, some peculiar types of pain are also described.

- A. **Psychogenic pain:** It is caused, aggravated or prolonged by mental, emotional or behavioural factors. Headache, stomach ache and backache are sometimes described as psychogenic.
- B. **Phantom pain:** It is the pain felt in an amputated body part or from a part from which brain no longer receives signals. It is a type of neuropathic pain.
- C. **Breakthrough pain:** It is acute, excruciating and incapacitating pain which occurs spontaneously or in relation to a specific predictable or unpredictable trigger, experienced by patients who are relatively stable and adequately controlled background pain.
- D. **Pain insensitivity:** Congenital insensitivity to pain (CIP) is an inborn disorder. Children suffer from carelessly incurred injuries in skin, muscles, joints, tongue and eyes. Most of them usually die before adulthood and have decreased life expectancy.

Pain assessment: Various parameters are used to assess pain. Some of them are –

- Duration
- Severity
- Site
- Character
- Persistent or intermittent
- Relieving or aggravating factors
- Accompanying symptoms

- Distribution of pain
- In children, it is assessed by child's crying voice, posture and movement.

Shoola

Ayurveda Samhitas have no clear cut chapters of *Shoola*. There is scattered reference in the *Purvaroop*, *Roop* and *Updrava* of various diseases. *Shoola*, *Ruja*, *Ruka*, *Vedana*, *Arti* are some of the synonyms of pain. In the 7th century, Madhav Nidana for the first time described a separate chapter for *Shoola*. Charaka Samhita, Sutra Sthan chapter 4 has mention of *Shoola prashamana*, *Vedana sthapana mahakashaya* and *Angamard prashamana mahakashaya* for alleviating pain. All types of pain can be grouped under *Vata dosha* aggravation. It is responsible for all kinds of movement in the body and also the movement of *Pitta* and *Kapha dosha*. Therefore, hindrance to the flow of *Vata* causes different types of pain. Along with *Tridosha*, the nature of pain can depend on factors like, *Dhatu*, *Koshtha*, mental state of the patient, function of the organ involved and the environmental factors.

According to the dominance of *Dosha*, various types of pain can be described.^[2] *Vatik* pain is pricking or tearing in nature. *Pittaj* predominant pain has burning sensation. *Kaphaja* pain is a dull aching pain and *Sannipatik* pain is severe in nature, present at all times. Acharya Charaka has defined the nature of pain according to the site of *Sthan shanshraya* of *Vata dosha*.^[3] *Dosha* in *Koshtha* results in *Parshva shola* (colicky pain), *Sarvangata vata dosha* causes *Gatra sphurana bhanjana* (twitching sensation and breaking pain in the body), *Vedana* and *Paritashcha sphutana* (feeling of joints being cracked). *Gudagata vata* causes *Gudagata shola* (colicky pain), *Amashayagata vata* causes *Hrita nabhi parshava udara ruka* (pain in cardiac region, umbilicus, sides of the chest and abdomen), *Pakvashayagata vata* causes *Pakvashayagata shola* (colicky pain) and *Trik vedana* (pain in lumbar region). *Twakgata vayu* results in *Tudyate* (pricking pain in skin) and *Parva ruka* (joint pain). *Raktagata vata* causes *Teevra ruja*, while *Mansa* and *Medogata vaayu* causes *Dandmushtihatma* (pain as being beaten by stick) and *Shramitatyartha* (exertional pain). *Asthimajjagata vayu* results in *Asthi bheda* (cracking pain in bones and joints), *Parvanama sandhi shola* (piercing pain) and *Satata ruka* while *Siragata vayu* causes *Manda ruka* (mild pain) along with *Shushyate spandayate* (emaciation and throbbing pain). *Snayugata vayu* causes *Khalli* (neuralgic pain in feet and shoulder) whereas *Sandhigata vayu* results in *Prasarana aakunchana pravriti vedana* (pain in flexion and extension).

Vayu when Aavrita with different Dosha and Dhatus produces different types of pain.^[4] Pitta and Kapha aavrita vayu causes Shoola (colicky pain), Rakta aavrita vayu causes Daha arti twak mamsa antarajo (excessive pain and burning sensation in area between skin and muscle tissue), Asthi aavrita vayu causes Suchibhiriva tudyate (feeling of being pricked by nature), Majjavrita vayu results in Pariveshtanam (twisting pain) and Shool (colicky pain), Annavarita vayu causes Kuksha ruka jeerne (pain in pelvic region

after intake of food and alleviation after digestion of food) and Purisha aavrita vata causes Parikartana (gripping pain), Shroni vankshana prishtha ruka (pain in hips, groin and back).

MATERIALS AND METHOD

Twagadi Gutika has been described by Acharya Shodhala in Gadhnigrah- Pratham prayog khand, Chaturth gutikadhikar. This tablet has been mentioned in the treatment of Vatavyadhis.

Table 1: Contents of Twagadi Gutika

S.no.	Name	Latin name	Family	Part used
1	Twak	<i>Cinnamomum zeylanicum</i>	Lauraceae	Bark
2	Ela	<i>Elettaria cardomomum</i>	Zingiberaceae	Seed
3	Gandhak	Sulphur	-	-
4	Guggulu	<i>Commiphora mukul</i>	Burseraceae	Extract
5	Erand	<i>Ricinus communis</i>	Euphorbiaceae	Oil

Table 2: Twagadi gutika contents - Ras Panchaka

Name	Rasa	Guna	Virya	Vipaka	Doshghanatwa
Twak	Katu ^[5] Tikta ^[5] Kashaya ^[5]	Laghu ^[5] Ruksha ^[5] Tikshana ^[5]	Ushna ^[5]	Katu ^[5]	Kaph - Vata hara ^[5]
Ela	Katu ^[6] Madhura ^[6]	Laghu ^[6] Ruksha ^[6]	Sheeta ^[6]	Madhura ^[6]	Tridosh - hara ^[6]
Gandhak	Katu ^[7] Tikta ^[7] Kashaya ^[7]	Sar ^[7]	Ushna ^[7]	Madhura ^[7]	Kaph - Vata hara ^[7]
Guggulu	Katu ^[8] Tikta ^[8]	Laghu Ruksha ^[8] Sukshma ^[8] Tikshana ^[8]	Ushna ^[8]	Katu ^[8]	Kaph - Vata hara ^[8]
Erand	Madhura ^[9]	Snigdha ^[9] Tikshana ^[9] Sukshma ^[9]	Ushna ^[9]	Madhura ^[9]	Kaph - Vata hara ^[9]

Table 3: Twagadi Gutika contents - mode of action

Name	Chemical Composition	Karma	Pharmacological Action
Twak	Eugenol ^[10] Cinnamaldehyde ^[10]	Vednasthapana ^[10]	Anti-inflammatory ^[11] Anaesthetic ^[11] Antioxidant ^[11]
Ela	Terpineol ^[12] Limonene ^[12] Terpinene ^[12]	Balya ^[12]	Analgesic ^[12] Anti-inflammatory ^[12] Antispasmodic ^[12]
Gandhak	Sulphur ^[13]	Rasayana ^[13]	Antioxidant ^[14]
Guggulu	Amino acid ^[15] Steroids ^[15] Sesamine ^[15]	Vednasthapana ^[15] Shoth-hara ^[15] Rasayana ^[15]	Anti-inflammatory ^[15] Nervine tonic ^[15] Antispasmodic ^[15]

		<i>Balya</i> ^[15]	
<i>Erand</i>	Ricin ^[16] Ricinine ^[16]	<i>Shoth-hara</i> ^[16] <i>Vednasthapana</i> ^[16] <i>Balya</i> ^[16]	Anti-oxidant ^[17] Anti-inflammatory ^[17] Analgesic ^[17]

Method of Preparation

त्वगेले गन्धकं चैव गुग्गुलुं समभागतः ।

कुर्याद्वातारितैलेन गुटिकां वातरोगिणाम् ॥^[18]

(ग.नि.प्रथम प्रयोग खण्ड 4/460)

All the four ingredients, i.e., *Twak*, *Ela*, *Shudh gandhak* and *Shudh guggulu* are taken in powder form, in equal quantities. After mixing them together, *Erand taila bhawana* is given. After this, tablets of equal weight are made, from the resulting mixture. The formed tablet is beneficial for use in all kinds of *Vata* related disorders.

Probable Mode of Action

Twagadi Gutika is a scientific herbal preparation that can be efficiently used to manage musculoskeletal pain. Its mode of action can be overviewed under two broad headings - in terms of principles of Ayurveda and in terms of modern medicine. Looking at each of the contents individually, *Twak* has *Ushna virya* and is therefore *Kapha-Vata shamak*. Its *Vednasthapana* property is responsible for alleviating pain. *Twak* has eugenol and cinnamaldehyde as active constituent. Eugenol is known to suppress Na⁺, K⁺, and Ca²⁺ voltage-dependent channels. The high voltage-activated Ca²⁺ channel inhibition by eugenol plays an important role in pain-relieving effect. The chemical constituents of *Twak* have antioxidant, anaesthetic, and anti-inflammatory properties. Its antioxidant property can be useful to remove the pain causing factors and anaesthetic property can further enhance its pain-relieving factors. *Ela* is a combination of *Madhura rasa*, *Sheta virya* and *Madhura vipaka* because of which it has *Tridosha har* properties. It also has *Balya* property helps in strengthening the musculoskeletal system. It has anti-inflammatory, antioxidant and antispasmodic attributes, which are responsible for pain alleviation. *Gandhak* is *Ushna* in *Virya* and *Madhura* in *Vipaka* which contribute to its *Vata-kaph har* properties. It has *Rasayana* property which can be useful to improve vitality. It acts as an anti-oxidant. *Guggulu* is *Ushna* in *Virya* and is *Vata- Kapha har*. It has *Vedanasthapana*, *Shoth-har*, *Rasayana* and *Balya* properties. These can successfully relieve inflammation and pain. It has anti-inflammatory and anti-spasmodic action. Along with this, it also acts as a nervine tonic. *Erand* is *Madhura* in *Rasa*, *Ushna* in *Virya* and *Madhura* in *Vipaka*, which contribute to its *Vata-kaph har* properties. Its *Shotha har* and *Vednasthapana* properties can be effective to manage pain and *Balya* property will provide overall

strength. *Erand* has anti-inflammatory, anti-oxidant and analgesic actions.

CONCLUSION

Pain is a perception which compels the patient to seek immediate medical help and relief in pain is considered as betterment in the health of the patient. As implied by the *Prayojana* of Ayurveda, *Swasthasya Swasthya Rakshanama*, we aim at maintaining the good health of the patient. Thus, seeking an alternative to commonly used analgesics, which are harmful in the long run, is the aim of this article. Reviewing the therapeutic properties of the contents of *Twagadi Gutika*, a hypothesis has been proposed of its probable mode of action. Contents of the tablet, *Ela* and *Twak* are commonly used in our daily life. *Erand Taila* is well known for its *Vata har* properties. Sulphur is widely used for its medicinal uses, whereas, *Guggulu* is well known for its extensive pain-relieving action. Thus, manufacturing of this drug would be easy and cost effective. As mentioned in *Gadh Nigraha*, this tablet has been indicated in treating *Vataj* disorders. For future studies, a trial can be conducted for testing the efficacy of *Twagadi Gutika*, which if successful can be a boon for the society.

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***Address for correspondence**

Dr. Akansha Uniyal

PG Scholar,
PG Department of Shalya Tantra,
Rishikul Campus, Uttarakhand
Ayurved University, Haridwar,
Uttarakhand, India.

Email:

akuakansha695@gmail.com

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