

**AN AYURVEDIC APPROACH OF VEERATARU (*Dichrostachys cinerea* Linn.) ON VATAVYADHI W.S.R TO SANDHIGATA VATA**Shaik Parveen<sup>1</sup>, K. Madhusudana Rao<sup>2</sup>, R. Yamini Diwakar<sup>3</sup>, T. Leela Rani<sup>4</sup>

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**ABSTRACT**

Neurological disorders are of excellent incidence today and affect our day-to-day lives. More than 600 known neurological disorders and conditions affect the human nervous system and are hampering the working potential of humans. For many of them, treatment options are minimal. The increasing dissatisfaction with the side effects and long-term consequences of today's potent and fast-acting medications has led people to seek alternatives. Hence, many are looking towards the safest alternative therapies, of which Ayurveda stands in the first line. This trend indicates the potential for Ayurveda to emerge as a significant medicinal science globally, not only just in India. Neurological disorders can be correlated in Ayurveda under Vata vyadhi. Vata vyadhi is not a single disease but a group of disorders affecting all body systems. Pakshaghata (hemiplegia), Ardita vata (facial paralysis), Sandhigata vata (osteoarthritis), Grdhrasi (sciatica), etc., come under vata vyadhis. Traditionally, a large number of herbs are used to manage Vata vyadhi. One among them is Veerataru (*Dichrostachys cinerea* Linn.), which is not highlighted in the practice of Ayurveda. Acharya Susruta quoted Veerataru in Veerataradi gana as having complex actions like HANTI VATAKRTAN GADAN (eradicates diseases of vata), RUJAPAHA (reduces pain), and Bhavamisra mentioned in Guduchyadi varga and it is attributed to have the property of action like ANILARTIJIT (overcomes the pain due to vata). Raja Nighantukara mentioned it as VATAMAYA VINASANA (destroys diseases of vata), VATA VIKARANUT (acts on vata disorders), etc., as described by various Acharyas which are essential in treating Vata vyadhi.

**Keywords:** Veerataru (*Dichrostachys cinerea Linn.*), Vata vyadhi, Sandhigata vata, Ayurvedic approach, Therapeutic efficacy

## INTRODUCTION

Vata, Pitta, and Kapha collectively form Tridosha [1], the essential living entities responsible for all bodily functions. Among these, Vata holds primacy and governs the entire body's systems, as elucidated by Acharya Charaka: '**Vayu tantra yantra Dhara**' [2], highlighting its pivotal role in regulating bodily functions. In modern science, the nervous system serves as the body's controlling mechanism, paralleling the concept of Vata. Vata vyadhi encompasses a spectrum of disorders affecting all bodily systems, similar to neurological disorders. Sandhigata Vata is described under Vatavyadhi in all the Samhitas and Sangraha Granthas. In the Ayurvedic classics, the aetiopathogenesis and symptomatology of Sandhigata Vata are described concisely. Clinically, the description of Sandhigata Vata explained in classical texts is similar to osteoarthritis in modern science. Acharya Charaka first described Sandhigata Vata as Sandhigata Anila with symptoms of Shotha (Swelling), which on palpation feels like a bag filled with air and Shula (pain) on Prasarana and Akunchana (pain on flexion and extension of the joints). Traditional medicine relies on various herbs to manage Vata vyadhi, with Veerataru (*Dichrostachys cinerea Linn.*) being a prominent choice. Acharya Narahari Pandit, author of RajaNighantu, also mentioned that the virtues of Veerataru, stating "**vahni deepthikaraha pathyo vaataamayavinasanaha**" [3], directs its efficacy in balancing Vata and increasing digestive fire.

### Definition of Sandhigata vata

Acharya Charaka described Sandhigata vata as shotha, which is palpable as a bag filled with air (Vatapurnadritisparsha), and ankunchana prasarana janya vedana is pain during extension and flexion of the joint, are the symptoms [4].

### Nidana Panchaka of Vatavyadhi

#### Nidana

There is no specific description of Hetu of the disease Sandhigata vata. As it is one of Vaatvyadhi, the Hetu

of Vaatvyadhi are to be accepted as the Hetu of the Sandhigata Vata

### General Hetu of Vatavyadhi

1. Aaharaja Hetu
2. Viharaja Hetu

### Purvarupa of Sandhigata Vata

The unclear signs and symptoms produced by the vitiated doshas during the process of sthana samsara, which indicates the forthcoming disease, are called purvarupa.

There is no classical description regarding the Purvarupa of Sandhigata vata, 'avyaktanam lakshana' of Vatavyadhi[5].

### Rupa of Sandhigata Vata

The cardinal symptoms are as follows.

1. Vata purna druti Sparsha [6]
2. Sandhi shula (joint pain) [7]
3. Sandhi sphutana or Atopa (crepitation) [8]
4. Prasarana akunchana pravruithi savedana (pain during movement) [9]
5. Sandhi shotha or shopha (swelling) [10]

### Samprapti of Sandhigata Vata

Knowledge of Samprapti, i.e., the etiopathogenesis of the disease, is essential. It is the process of disease from its initiating phase to fully manifesting. This process starts from nidana sevana, or consumption of the etiological factor causing dosha prakopa, circulates throughout the body, localises, and then manifests and differentiates. From the pathological point of view, dosha, dhatu, and srotas are essential in relation to Sandhigata Vata.

### SAMPRAPTI GHATAKAS

Dosha	-	Vatavruddhi, kapha kshaya (sleshaka kapha) [11]
Dushya	-	Asthi, snayu (sandhi avayava) [12]
Srotas	-	Asthi vaha, majja vaha [13]
Agni	-	Dhatwagni
Roga-marga	-	Madhyama [14]

Udbhavasthana - Pakwashaya[15]

Vyaktasthana - Sandhi [16]

### APPROACH AND PERSPECTIVE:

#### VEERATARU

**Botanical name:** *Dichrostachys cinerea* Linn.

**Family:** Mimosaceae

**Morphology:** Perennial shrub or a small tree. **Leaves**

- Bipinnately compound, elliptic, alternate, stipulate;

Leaflets 12-20, opposite, sessile, estipulate. **Flowers** -

In solitary or paired spikes; bicoloured, upper flowers

fertile, yellow, lower ones sterile, pink; **Fruit**- Flat

linear pod, coiled, indehiscent, **Seeds** - 6-10, ovoid,

compressed. **Stem** - Bark on young branches, green

and hairy but dark grey-brown and longitudinally

fissured on older branches and stems; Twigs greyish

brown, with prominent light lenticels—**Root** -

Straight, cylindrical & woody with longitudinal

ridges with abundant fibrous roots. The root bark is

thin yellow to buff coloured and has brown patches

externally and whitish grey internally [17].

#### RASAPANCHAKA (CLASSICAL

#### PROPERTIES)

**Rasa** - Tikta, Kashaya

**Guna** - Laghu, Ruksa

**Virya** – Ushna

**Vipaka** – Katu

**Dosha karma** - Kapha Vata Samaka

**Karma** - Dipana, Grahi, Vatahara, Ashmari Bhedana,

Mutrala, Ashma doshahara, Sothahara, Yoni dosha

hara, Vedana sthapana, Trsna nigrahana [18].

**USEFUL PARTS:** Root, Stem bark, Leaves.

**DOSE:** Decoction: 20-40ml

#### CLASSICAL PROPERTIES ACCORDING TO

**VATA DISORDER:** Vayuroganashana (removes

disorders of vata) [19], rujapaha (relieves pain) [20],

vatavikaranut (useful in vata vikara) [21], anilaartijit

(overcomes the pain due to vata) [22], vaataamaya

vinasana (relieves vata disorders) [23], sandhiruja

nivarana (removes joint pains) [24], Sandhishulajit

(overcomes the joint pains)[25],

#### PHYTOCONSTITUENTS

Various studies have revealed that ethanol, methanol,

chloroform, petroleum ether, Hexane, Ethyl acetate,

Acetone and aqueous extract of different parts of

*Dichrostachys cinerea* contains various chemical groups such as Alkaloids, Flavonoids, Carbohydrates, Saponins, Tannins, Anthocyanin and Betacyanin, Coumarins and Phytosteroids, Phenols, Aminoacids and proteins, Terpenes, Triterpenes, Diterpenes, aliphatics, Cardiac glycosides [26] and cardiogenic Heterosides [27]. An extensive phytochemical analysis of *D.cinerea* revealed the presence of  $\beta$ -amyryn,  $\beta$ - sitosterol, esculetin, imperatorin, marmesin [28,29]  $\alpha$ - amyryn, stigmasterol [30], octasanol, friedelin-3-one[31], friedelin, friedelin 3 $\beta$ -one [32] and 3-o-acyl mesquitol[33].

#### PHARMACOLOGICAL PROPERTIES

##### 1. Analgesic and Anti-inflammatory activities:

The chloroform extract of *Dichrostachys cinerea* leaves (15 mg/kg, 30 mg/kg) showed significant analgesic activity in the Swiss albino mice (acetic acid-induced writhing method). At a dose of 30 mg/kg body weight, the extract revealed an excellent reduction in induced writhes compared to standard Aspirin given at a dose of (100 mg/kg) [34]. An in vitro study was conducted to determine the analgesic and anti-inflammatory activity of the ethanolic extracts of *Dichrostachys cinerea's* stem bark (EDCB), root (EDCR) and leaf (EDCL). Among all the extracts, EDCL showed good analgesic activity in centrally mediated analgesia (Eddy's hot plate method), and EDCR showed good analgesic activity in both centrally and peripherally mediated analgesia when compared to the standard carboxymethyl cellulose (Acetic-induced writhing method).

In a study, chronic and acute models (cotton pellet granuloma and carrageenan-induced paw oedema model, respectively) were used to investigate the anti-inflammatory activity of EDCL, EDCR and EDCB. Among the extracts studied (at a dose of 200 mg/kg and 400 mg/kg), EDCR showed a better reduction in granuloma formation at both doses (32.84% and 33.84%, respectively), and EDCL showed a significant decrease in volume of paw oedema at both doses (63.64% and 69.97% respectively) [35]

**2. Antioxidant activity:** A study investigating the antioxidant activity of *D.cinerea* bark different extracts (aqueous, ethyl acetate, butanol, dichloromethane and methanol) revealed a positive correlation between total phenolic levels and anti-radical activity between total phenolics and antioxidant activity. Among all the extracts, dichloromethane and ethyl acetate extracts showed significant antioxidant activity with the higher value of polyphenolic compounds, 49, 72 +/- 0.55 mg EAG / g and 52, 27 +/- 0.66 mg EAG / g respectively [36].

## DISCUSSION

Vatavyadhi is a group of particular diseases produced due to aggravated Vata. Due to different etiological factors, Vata Prakopa occurs through the Dhatukshaya and Margavarodha process, which later produces Vatavyadhi. These pathological processes may be regarded as Vishista Samprati (Pathogenesis) of Vatavyadhi. The symptoms of Sandhigata vata are mainly associated with Vatapurna dhruti sparsa, Sandhi shula, Prasarana akunchana pravruithi savedana (pain during movement) characteristics.

In Ayurveda, the mode of action of drugs depends on Rasa Panchaka, which encompasses Rasa (taste), Guna (quality), Veerya (potency), Vipaka (post-digestive effect), and Prabhava (specific action). The drug Veerataru (*Dichrostachys cinerea* Linn.) possesses Tikta, Kashaya Rasa, Laghu Ruksha Guna, Ushna Veerya, Katu Vipaka, and has Dosha Karma as Kapha Vata Shamaka and having Karma of Dipana and Vatahara plays a significant role in treating Sandhigata vata.

The Tikta rasa and laghu guna of Veerataru help in amapachana, which nourishes Sapta dhatus by doing Dhatvagni pachana. Stambha guna of Kashaya rasa offers stability to the Asthi dhatu and surrounding tissue, which supports the joint. The stabilised Asthidhatu, with the help of the Chala guna of Veerataru, maintains controlled and balanced joint movements, which provide structural support to the joint. Here, when the joint gets structural support, there is a reduction in wear and tear, which reduces

the inflammation of the disc and further helps reduce swelling. Ushna guna of Veerataru provides proper circulation, which helps reduce inflammation, pain and numbness. Again, the Ushna guna and VataKaphahara karma of Veerataru increases the flexibility of the affected joint, thereby decreasing the cardinal symptoms of Sandhigatavata.

## CONCLUSION

In conclusion, Vatika disorders represent complex conditions stemming from imbalances in Vata dosha, a fundamental principle in Ayurvedic medicine. These disorders often present with symptoms such as pain, stiffness, and neurological manifestations, significantly impacting an individual's quality of life. The aetiology of Sandhigata vata can be attributed to either the formation of aama or obstruction of bodily channels, further exacerbating Vata imbalance leads to symptoms of Sandhigata vata.

Historically, traditional medicinal plants have been crucial in managing Vatika disorders. *Dichrostachys cinerea* Linn. stands out for its Agni Deepana karma, i.e. Dhatvagni, which helps in aama pachana at the level of Asthidhatu, which helps in further nourishment of deranged asthi dhatu in Sandhigata vata which comes under vata vyadhis. The rich therapeutic profile, which includes potent anti-inflammatory and analgesic effects, along with antioxidant properties, make it a valuable resource in stabilising Vata dosha and addressing the symptoms associated with Sandhigata vata.

In essence, the traditional wisdom surrounding *Dichrostachys cinerea* Linn. provides a promising avenue for the management of Vatika disorders, highlighting the importance of embracing both ancient knowledge and modern scientific inquiry to improve healthcare outcomes and enhance the well-being of individuals affected by these challenging conditions.

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