# SEGMENTAL DYSTONIA – AN AYURVEDIC APPROACH

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**ABSRACT:**

Segmental dystonia is a neurological movement disorder characterized by involuntary, sustained muscle contractions affecting two or more contiguous regions of the body, often leading to abnormal postures and significant functional impairment. The world wide prevalence of dystonia is estimated to be 16.4/100,000 of the population making it the second most common movement disorder problem after tremor. From an Ayurvedic perspective, segmental dystonia is predominantly associated with vitiation of *Vata dosha*, particularly affecting the *Majja dhatu* (nervous tissue) and *Mamsa dhatu* (muscular tissue). The condition can be correlated with "*Vataja Nanatmaja Vikara*", a category of diseases caused by aggravated *Vata* presenting with diverse neuromuscular manifestations.

Segmental dystonia can be treated using Ayurvedic approaches like *shamana* (palliative) and *shodhana* (purificatory) therapies. Treatments such as *Basti* (medicated enema), *nasyam* (nasal administration of medicine), *Greeva Pichu* (localized oil application), *elakkizhi/muthirakizhi* (herbal poultice massage), and *nadi swedana* (localized steam therapy) play a central role in pacifying aggravated *vata* and restoring neuromuscular balance. Medicated oils like *karpasasthyadi taila*, *dhanwantaram taila*, and *sahacharadi taila* are employed for their neuroprotective and anti-spasmodic properties.

Clinical experience suggests that this integrated Ayurvedic protocol may help alleviate symptoms such as muscle spasms, rigidity, and pain, enhance motor coordination, and improve quality of life in patients with segmental dystonia. While not a curative approach, Ayurvedic management offers a safe and holistic adjunctive strategy, warranting further research and clinical validation.

**Keywords:** Segmental dystonia, *Vataja Nanatmaja Vikara*

## INTRODUCTION:

Dystonia is a neurological movement disorder marked by involuntary muscle contractions. It is the 3rd most movement disorder after the essential tremor and Parkinson's disease. This condition can affect individuals of all ages, races and ethnic background from young children to older adults.

The disorder is due to irregular activity in the basal ganglia, a deep brain structure involved in coordinating movements. These regulates the smooth movements while suppressing the unwanted movements. The

characteristic features of dystonia include involuntary twisting, repetitive motions, or unusual postures of any part of body.

**CAUSES:**

The causes of dystonia are unclear, but involve changes in various brain regions or in how they communicate with each other. Dystonia can be acquired, inherited or idiopathic. Acquired dystonia can be from brain damage, such as stroke, brain injury or due to certain medications. Inherited is passed down through genes. Idiopathic occurs without any known cause.

**CLASSIFICATION:**

Dystonia is classified by 3 main factors:

1. Age at which symptoms developed
2. Affected body part
3. Underlying cause

**Classification by age:**

- Childhood onset – Age 0 to 12
- Adolescent onset – Age 13 to 20
- Adult onset – Older than 20 years

**Classification by Body part:**

1. Focal Dystonia
2. Segmental Dystonia
3. Multifocal Dystonia
4. Hemidystonia
5. Generalized Dystonia

**Classification by Causes:**

1. Primary (Idiopathic)
2. Secondary (Symptomatic)
3. Dystonia-plus syndromes
4. Heredodegenerative Dystonia

1. **Focal Dystonia:**

This affects only one part of body. Like:

- ❖ Eyelids
- ❖ Hand or wrist
- ❖ Jaw

2. **Segmental Dystonia:**

This condition affects two or more adjacent body parts, like parts of your face, head, neck, hand or arm. Most common among this is Cervical dystonia.

3. **Multifocal Dystonia:**

This affects one or more body parts that aren't connected.

4. **Hemi Dystonia:**

This affects one side of body. Strokes are main cause of hemi dystonia.

5. **Generalized Dystonia:**

This may involve leg, trunk or even entire body. This may worsen over time.

**Causes of dystonia:**

Dystonia occurs due to disruption of brain function. This mainly involves basal ganglia. This includes:

1. **Primary Dystonia:**

This is usually "idiopathic" and genetics is a factor.

2. **Secondary Dystonia:**

The condition where dystonia is a symptom of another issue.

3. **Dystonia plus Syndromes:**

Here dystonia is the main symptom associated with other symptoms.

4. **Heredodegenerative Dystonia:**

Occurs as a result of neurodegenerative disorders with some neurological symptoms, here heredity plays a major role.

**DIAGNOSIS AND TESTS:**

- ✓ Blood tests – these can detect problems ranging from immune system issues to toxins and poisons, especially metals like copper or manganese.
- ✓ Computerized tomography (CT) scan – This will look for changes in brain, such as tumours or evidences of stroke
- ✓ Electroencephalogram (EEG) – To rule out myoclonic epilepsy
- ✓ Electromyogram (nerve conduction test)
- ✓ Genetic testing
- ✓ Magnetic resonance imaging (MRI) - This will look for changes in brain, such as tumours or evidences of stroke.
- ✓ Positron emission tomography (PET) – PET in dystonia shows functional abnormalities, especially in basal ganglia and motor cortex circuits.
- ✓ Spinal tap (Lumbar puncture) – Spinal tap is carried out to rule out secondary causes such as infection, autoimmune encephalitis, paraneoplastic syndromes and metabolic or neurogenic disorders.

**TREATMENTS:**

- ➢ Deep brain stimulation:
  Here surgery is carried out to implant electrodes into your brain. This will pass a mild electric current to part of your brain thereby helping with symptoms of dystonia. This is most commonly used surgery.
- ➢ Medications:
  This depends on the symptoms of dystonia.

- ➢ Botulinum toxin injections:
  Commonly known as Botox. This will block the nerve signals for weeks or months when injected. The medicine is injected to the effected muscles so that the botulinum neuro toxin blocks the release of the acetylcholine and relaxes the muscle. This will also provide strength to the muscles and reducing the symptoms of dystonia.
- ➢ Gentle physical therapy for improving the range of motion.

- Physical, occupational and speech therapy

**AYURVEDIC VIEW:**

There is no direct reference for segmental dystonia in Ayurveda. Here *Prakupita vayu* plays an important role in manifestation of these clinical presentations. In *dhatukshayajanya vatavyadhi* the treatment modalities may follow *shodana, shamana* and *rasayana chikitsa.*The treatments that have beneficiary effect in segmental dystonia includes *Muttakkizhi, Elakkizhi, Nadiswedam, Nasyam* and *Basti.*

**MODE OF ACTION OF TREATMENTS:**

- ***Muthirakizhi*:**
  *Muthirakizhi* is a form a *pinda sweda* and helps to pacify the aggravated *vata dosha* and also helps in relaxation of muscles. The treatment is indicated in muscular atrophy, muscle weakness, stiffness, joint pains etc. *Muthirakizhi* has better result in cervical conditions and also Parkinson's disease.
- ***Patra Pottali Sweda/Elakizhi:***
  The word "*patra pottali'* is made of two words, *patra* means leaves and *pottali* means bundles. The procedure is carried out using *vatahara* plants like *nirgundi, eranda, chincha, dhatura, shigru* and *arka* which is very beneficial in alleviating conditions caused by *vata dosha.* This is very effective in even conditions like paralysis. The procedure provides sudation thereby relaxing the tight muscles and improving circulation. This can be carried out using *taila* like *sahacharadi taila, dhanwantaram taila, karpasasthyadi taila* etc. which are basically *vatahara* in nature. These oils also help in reducing the muscle spasm and rigidity and thereby causing relief to the patient.

- ***Nasyam:***
  *Nasyam* is a treatment method that helps to wash out the disorders pertaining to *urdhjatruurdhwa. Ksheerabala 101 Avarti* can be used for doing *nasya.* This helps in balancing the *vata dosha* by pacifying the aggravated *vata.* This also improves the nerve tone by enhancing the nerve conduction and reducing the spasmodic activity through its nourishment and unctuousness. It has also got a relaxant effect and also strengthening the nervous system. *Nasya* helps in reduction of abnormal postures, improving the motor coordination and reducing the rigidity. Also helps in improving the function over time.

- ***Nadi swedam:***
  *Nadi swedam* is a localized sudation therapy helps to relieve stiffness, spasticity and neuromuscular tension and thereby promoting good results in segmental dystonia. The procedure relaxes the tight muscles by reducing the contractions and stiffness. It improves local circulation and enhances the oxygen and nutrients delivery to nerves and muscles.
- ***Greevapichu:***
  By performing *greevapichu* a sustained oleation is given to cervical spine and nerves thereby nourishing the nerves and relieving the spasm. This can be carried out using certain *vatahara* oils.The local heating provided by the pre heated *taila* in *greevapichu* supports local healing and nerve conductivity. Commonly used oils include *Karpasathyadi taila, dhanwantharam taila, mahamasha taila, sahacharadi taila* etc.
- ***Basti:***
  *Basti* is the best treatment for pacification of vitiated *vata.* It helps to overcome *sthamba, sankocha* etc. *Anuvasana basti* helps in nourishing the nerves and muscles, reducing the hyperactivity and reducing the spasm. *Niruha basti* relieves the stiffness and helps in balancing the aggravated *doshas. Yapana basti* can often be used in conditions like segmental dystonia, parkinson's disease etc.

## DISCUSSION:

Even though segmental dystonia is not widely discussed in Ayurvedic science it can be understood through lens of *Vata vyadhi* which involves *kampa* and *sankocha* mainly as it's features. Internal medicines which have actions like *rasayana, vatahara* and also which helps in improving the nerve tone could be administered for better results. Some of them can be:

- Tab *Vatagajankusha rasa* which helps in improving the nerve tone
- Tab *Trayodashanga guggulu* which improves neuromuscular strength, supporting nerve tissue regeneration, improving the coordination and also reduces the cramps
- Tab *Ashwagandha* that helps in improving nerve tone, also lowers anxiety
- *Aamavatantak churna* which eases the muscle spasm and helps in reducing the joint stiffness
- *Dashamoola kashaya* which are effective in pacifying *vata* and also improves the circulation thereby improving nerve conduction

## CONCLUSION:

Segmental dystonia is a neurological condition with characters like involuntary muscle contractions and abnormal postures. *Ayurvedic* therapies which aims to balance *vata dosha* helps in improving the neuromuscular coordination and reducing symptoms like spasm, rigidity etc. Treatments like *muthirakizhi, elakkizhi, nasyam, greevapichu, nadiswedam* and *basti* can provide symptomatic relief and improve overall quality of life of individuals with segmental dystonia.

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