

## A SINGLE CASE STUDY ON AYURVEDIC MANAGEMENT OF POEMS SYNDROME

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Article Received on 08/09/2021

Article Revised on 28/09/2021

Article Accepted on 18/10/2021

## ABSTRACT

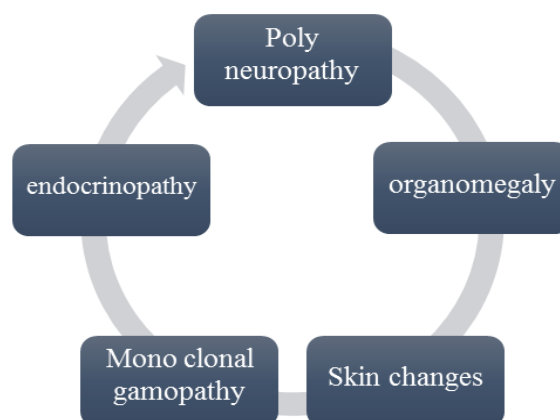
POEMS Syndrome is a rare chronic and disabling condition. POEMS stands for Polyneuropathy, organopathy, endocrinopathy, monoclonal gammopathy, skin changes. The causes of condition remain unknown. However chronic over production of proinflammatory cytokines appears to be a major contributor. Peripheral neuropathy is the most prominent symptom, causing weakness in the upper and lower limb. Early diagnosis is essential to start treatment before the clinical state of patient become compromised. The present paper discusses a case study of patient suffering from POEMS syndrome managed by Ayurvedic treatment through *panchakarma* (5 types of treatment modalities used in Ayurveda) and *shamana oushadhis* (palliative measures). A male patient aged 52 years C/O Reduced strength and wasting of muscle in bilateral lower limb associated with Tingling sensation and numbness below knee joint since 10 months approached OPD of SJIIM Hospital, Bangalore. The patient was treated with panchakarma treatment followed by *Shamana Oushadi*. POEMS syndrome is a chronic and disabling condition, which doesn't have a permanent solution. In this case the treatment protocol has given significant relief in signs & symptoms. There was reduction of clinical symptoms and further progression of the disease. The patient followed up for 1 year and during which the quality of life and expectancy was improved.

**KEYWORDS:** POEMS syndrome, *Panchakarma*, *Mustadi raja yapana basti*, *Vatarakta*.

## INTRODUCTION

Polyneuropathy, organomegaly, endocrinopathy, M-protein, skin changes (POEMS) syndrome is a paraneoplastic syndrome due to an underlying plasma cell neoplasm. The major criteria for the syndrome are polyradiculoneuropathy, clonal plasma cell disorder (PCD), sclerotic bone lesions, elevated vascular endothelial growth factor, and the presence of Castleman disease. Minor features include organomegaly, endocrinopathy, characteristic skin changes,

papilledema, extravascular volume overload, and thrombocytosis. Diagnoses are often delayed because the syndrome is rare and can be mistaken for other neurologic disorders, most commonly chronic inflammatory demyelinating polyradiculoneuropathy. POEMS syndrome should be distinguished from the Castleman disease variant of POEMS syndrome, which has no clonal PCD and typically little to no peripheral neuropathy but has several of the minor diagnostic criteria for POEMS syndrome.<sup>[1]</sup>



**Poly neuropathy**

- ❖ Bilateral symmetric disturbance, involves both sensory and motor nerves.
- ❖ Begins distally and has a progressive proximal speed.
- ❖ Both demyelination and axonal degeneration noted.
- ❖ Associated cranial or autonomic nerves are not involved.

**Organomegaly**

- ❖ The liver, lymph nodes, spleen are organs usually involved.
- ❖ Hepatomegaly is not associated with any defined histologic or pathophysiological changes.

**Endocrinopathy**

- ❖ Elevation of estrogen level, impotence and gynecomastia are among men.

**Pathophysiology<sup>[2]</sup>**

- A clone or multiple clones of pre malignant or malignant plasma cells excessively produce and secrete into the blood stream.



- Increased vascular permeability leading to associated edema, increased endoneural pressure. Deposition of plasma derived materials



- Cytokines such as interleukin 1 beta, il6, tumor necrosis factor exposed to myelin tissue leads to demyelination of neurons

**Case history****Pradahana vedana**

A 68-year-old male patient n/k/c/o diabetes mellitus and hypertension approached Government Ayurveda hospital with C/O, Reduced strength in bilateral lower limb, tingling sensation, numbness below knee joint, unsteadiness of gait, difficulty in getting up from squatting position, Wasting of muscle below the knee joint and Weight loss since 10 months.

**Case history**

Patient had symptoms like numbness and tingling sensation in bilateral lower limb, difficult in gripping of foot wear, difficult in getting up from squatting position.

- ❖ Amenorrhea is common among women.
- ❖ Diabetes and glucose intolerance, hypothyroidism, hyperprolactinemia, hypo Parathyroidism also seen in patients.

**Monoclonal gammopathy**

- ❖ Most patients seen with osteo sclerotic myeloma or monoclonal Gammopathy of unknown significance.
- ❖ The M proteins frequently found are the immune globulin A, and B light Chains.

**Skin changes**

- ❖ Hyper pigmentation, skin thickening, Terry nails.
- ❖ Peripheral edema
- ❖ Hyperhidrosis
- ❖ Clubbing of nails
- ❖ Raynaud's phenomenon
- ❖ Angioma

For better management of these symptoms, he visited nearby hospital. They suggested ANCA, NCS, CSF protein and sugar test, USG abdomen, Bence Jones protein qualitative test, vitamin B12 test, serum protein electrophoresis test etc. On the basis of above examinations results the diagnosis was made as poem syndrome and prescribed medications. During the evaluation DM also detected and patient started to take medication for it. At the same time he noticed weight loss, wasting of bilateral lower limb below knee joint. Neurogenic atrophy of peronei's brevis, multi focal axonopathy with demyelination of superficial peroneal nerve were also detected in muscle biopsy.

**CHIKITSA VRUTTANTA (Previous treatment history)**

| Serial no | Medication                 |
|-----------|----------------------------|
| 1         | Inj. Optineuron            |
| 2         | Cap. Pregabalin 75mg 0-0-1 |
| 3         | Tab. Glim m2 1/2-0-1/2     |
| 4         | Metformin 500 mg 1-0-1     |

**Systemic examination****CNS EXAMINATION****HMF**

1. Conscious
2. Orientation to-time, place was intact
3. Memory -recent -not affected
4. remote memory - not affected
5. Intelligence - Intact
6. Speech disturbance - absent

**2. Cranial Nerve Examination**

No abnormalities found

**3. Cortical**

- a) Tactile localization (Topo gnosis) - Absent below knee joint
- b) Tactile discrimination - Absent below knee joint
- c) Stereognosis - Present
- d) Graphesthesia - Present

**4. Coordination**

- a) Finger nose test- negative

 **Power**

▶ Upper limb- 5/5

Lower limb- 1/5 below knee joint

| Joint          | Movement            | Power |
|----------------|---------------------|-------|
| Shoulder joint | Abduction           | 5     |
| Elbow joint    | Flexion, extension  | 5     |
| Wrist joint    | Extension           | 5     |
| Hip joint      | Flexion             | 4     |
|                | Extension           | 4     |
| Knee joint     | Flexion             | 5     |
|                | Extension           | 5     |
| Ankle joint    | Dorsi flexion       | 1     |
|                | Plantar flexion     | 1     |
| Great toe      | Extension           | 1     |
| Ankle joint    | Eversion, inversion | 1     |

**Involuntary movements**

- Right hand and leg -absent
- Left hand and leg -absent

**Gait**

1. Steppage gait
2. Foot is dragged and slapped on the floor unable to walk on heels.
3. Romberg s sign- patient can't stand without help of stick.
4. Tandem gait- poor

**Investigationn**

- CSF PROTIEN- 116 mg/dl
- CSF SUGAR- 90 mg/dl
- ULTRA SOUND SCANING OF ABDOMEN
  - Hepatosplenomegaly
  - Bilateral bosnaik type 1 cyst

**NEW TEMPL MUSCLE BIOPSY- WITH EHC**

- Muscle –neurogenic atrophy; peroneus brevis.

- b) Heel to shin test –negative
- c) Dysdiadochokinesis- no impairment

**Motor system** **Attitude of limbs**

- Upper limb: no abnormalities
- Lower limb: normal

 **Muscle Bulk**

a) Upper limb

|         |       |       |
|---------|-------|-------|
| Arm     | 29 cm | 29 cm |
| Forearm | 25cm  | 25cm  |

Lower limb

|       |      |      |
|-------|------|------|
| Thigh | 39cm | 39cm |
| Calf  | 28cm | 28cm |

 **Tone**

Upper limb - normotonic

Lower limb- Hypo tonic (below knee joint)

- Nerve-multifocal axonopathy with demyelination; superficial peroneal nerve
- Skin-superficial dermal vessel inflammation; skin biopsy.

**SAMPRAPTHI GHATAKA** (factors responsible for disease)

- ▶ *Dosha : vata*
- ▶ *dooshya : rakta, majja, mamsa, meda*
- ▶ *Agni : jataragni, dhatwagni*
- ▶ *Srotas : raktavaha, mamsa,medovaha, majjavaha*
- ▶ *Srotodusti : sanga, vimargagamana*
- ▶ *Udbhava stana : pakwashaya*
- ▶ *Vyakta stana : sarvanga*
- ▶ *Marga : madyama, bahya*
- ▶ *Sadyasadyata : yapy*

for the considering treatment for POEMS syndrome, we can corelate it with *Vatarakta* by comparing the pathogenesis and symptoms. according to dosha predominance treatment planed.

**TREATMENT****1<sup>ST</sup> PHASE**

| Treatment   | Days                       |  |
|---|----------------------------|--|
| <i>Sarvanga abyanga</i> with <i>pinda taila</i> followed with <i>yastimadhu ksheera parisheka</i> | 7                          | Tingling sensation and numbness subsided by 20 %                           |
| <i>shodhanartha snehapana</i> with <i>moorchita gritha</i>  | According to patient kosta | No observation found 4 days <i>snehapana</i> in <i>arohankrama matra</i> . |
| <i>Sarvanga abyanga</i> with <i>kshera Bala taila</i>   | 3 days                     | Reduction in tingling sensation and numbness by 50%                        |
| <i>Virechana</i> with <i>gandarvahastadi eranda taila</i>   | After <i>poorva karma</i>  | 15 <i>virechana vegas</i> occur .without any complication                  |
| <i>Visrama kala</i>   | 7 days                     | Complete subsiding of tingling and numbness                                |

**Shamanoushadhis**

- Asta varga kashayam 20ml-0-20ml

- Brihath chagaladi gritham 2ts -0-2ts before food
- Aswagandavaleha 2ts after food with milk

**2<sup>ND</sup> PHASE**

| TREATMENT  | NO OF DAYS | OBSERVATION  |
|--|------------|--|
| <i>Sarvanga abyanga</i> with <i>Masha tailam</i> followed with <i>shastika shali pinda Sweda</i>             | 7 days     | Tingling sensation and numbness reduced by 80%.  |
| <i>Mustadi raja yapana basti</i> in <i>Kala basti</i> pattern <i>anuvāsana</i> with <i>vidaryadi gritham</i> | 9 days     | Generalised weakness reduced, improvement observed in gait, marked improvement observed strength in lower limb below knee joint. |

## Changes observed after treatment

After the completion of the procedures, there was significant improvement found in patient after *Panchkarma* procedures and administration of formulations.

- Tingling sensation and numbness over lower limbs markedly abolished.
- Improvement is seen in walking without any aid. Improvement is seen in ADL (Activities of Daily Living), marked improvement observed in reduced strength below knee joint.

**DISCUSSION**

Ayurveda deals with every aspect of human life. Ayurvedic principles are eternal but its application can be modified as per timely changes. Acharya Charaka mentioned that all diseases can not labelled with some name, unsaid disease can be studied by considering *Dosha*, *Dhathu*, and *Stana* of disease.<sup>[4]</sup>

The cause of POEMS syndrome is not well understood. POEMS syndrome is a paraneoplastic disorder, which means that the signs and symptoms of the syndrome appear as a manifestation of the plasma cell disorder that the patient has (most patients are seen with osteosclerotic myeloma or monoclonal gammopathy of unknown significance); however, the mechanism by which this occurs is unknown. It is associated with a chronic overproduction of some substances known as pro-inflammatory cytokines (small molecules that act as messengers between cells to promote inflammation). These include interleukins (IL-1b, IL6) which are cytokines that help regulate immune responses, TNF $\alpha$  (Tumor Necrosis Factor alfa is a cytokine which is

involved in the inflammatory process) and vascular endothelial growth factor (VEGF – a powerful vasodilator that may cause leaky blood vessels) which seem to be important in this disorder.<sup>[5]</sup>

For the treatment purpose we can correlate POEMS syndrome with *vatarakta* by comparing both pathogenesis. in *vata disorders* or *vata* dominant *samsargaja* or *sannipatika* disorders *drava sweda* is indicated. *Yasti madhu* and *pinda taila* is having property of *vatapittahara* action. In initial phase treatment was *Sarvanga abyanga* with *pinda taila* followed with *yastimadhu ksheera parisheka* for 7 days. symptoms like tingling sensation and numbness markedly improved after completion of treatment. As in *vata rakta chikitsa shodhana* has prime important. By considering patient *bala*, *mrudu shodhana* with *gandarava hastadi erandataila* was given after *shodanarta Sneha pana* with *moorchita tila taila*. After *virechana* 15 days gap was given for next phase treatment.

2<sup>nd</sup> phase treatment started with *brahmana line* of modalities. *Sarvanga abyanga* with *Masha tailam* followed with *shastika shali pinda Sweda* for 7 days, *Mustadi raja yapana basti* in *Kala basti* pattern *anuvāsana* with *vidaryadi gritham* were included in 2<sup>nd</sup> phase treatment modalities. After the completion of the procedures, there was significant improvement found in patient. Symptoms like tingling sensation and numbness completely got reduced. There was significant improvement in regaining strength and normal gait.

POEMS syndrome is progressive disorder permanent cure is impossible in this condition. It was a humble trial

to improve patient's day to day activities and life span through panchakarma modalities.

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