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## An Ayurvedic Approach to Spinocerebellar Ataxia-A Case Report

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### ABSTRACT

Spinocerebellar ataxias (SCAs) are a group of neurodegenerative disorders which affects the cerebellum, mainly. There is no satisfactory treatment available for any of the over 30 known causes of SCA till date. The present case study was conducted on a 31 years old male patient already a diagnosed case of Sca (by AIIMS, New Delhi). He was managed according to the line of treatment of *vatavyadhi* (group of neurological disorders) described in *Ayurveda*. *Panchakarma* therapies like *Abhyanga*, *Patra Pinda Pottali Swedana*, *Shirobasti*, *Shirodhara* and *Kala/ Yoga basti* were important therapies along with oral medicines. Patient's condition was assessed on the Scale for Assessment and Rating of Ataxia (SARA) which was reduced from 21 to 6 after medication. Significant relief in symptoms was noted.

### KEYWORDS

SCA, *Panchakarma*, *Patra Pinda Pottali Sweda*, *Kala basti*, *Shirodhara*, SARA



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## INTRODUCTION

Spinocerebellar Ataxia (SCA) is a group of progressive neurological disorders which has common symptoms and disparate genetic aetiology. The prevalence of SCA's is about 1-4/100,000<sup>1</sup>.

The common symptoms of SCAs include - unsteady gait, uncoordinated limb movements, and slurred speech which are related to cerebellar dysfunction, but individual SCAs have variable involvement of extracerebellar areas. Polyglutamine ataxias (SCAs 1, 2, 3, 6, 7, and 17) are the diseases caused by an expanded CAG repeat sequence and encode glutamine, in the disease-causing gene<sup>2</sup>. In these cases, individuals can have similar repeat sizes but age of disease onset, rate of disease progression, and involvement of the cerebellum and other areas of the nervous system may differ for them<sup>3</sup>. SCA has a tendency of anticipation which worsens from generation to generation within a family.

It is very difficult to develop treatments for SCAs because delivery of gene targeting strategies is obstacle and many disease-causing mutations remain unknown. There are only two reported Ayurvedic studies in Pub Med indexed journals till date which reports satisfactory improvement in cerebellar ataxia<sup>4,5</sup>. Substantial recovery

was reported by the authors of the said studies through Ayurvedic management. This is important because no satisfactory treatment is available for this genetic disease.

## CASE STUDY

A 31 years old male patient working as taekwondo (Korean martial art) instructor earlier; visited the *Panchakarma* OPD in CBPACS, New Delhi in December 2016. It was a known case of SCA under supervision of Neuroscience centre, AIIMS, New Delhi; although subtype of SCA couldn't be confirmed, but they excluded the possibility of SCA1, 2, 3, 7 & 12. The patient was complaining of the following symptoms:

- 1) Unsteady gait since 2 years and 6 months
- 2) Slurring of speech 1 year and 2 months
- 3) Difficulty in balancing while sitting, standing and walking since 2 years
- 4) Uncontrolled movements of both upper limbs and other body parts since 1 year
- 5) Graying of vision since 1 year
- 6) Involuntary eye movements since 1 year
- 7) Difficulty in processing, learning and remembering information since 2 years
- 8) Lower back ache since 1 year
- 9) Intension tremors 1 year
- 10) Diminished facial expressions since 1 year

The symptoms had worsened progressively over last one year. There was similar family history in maternal grandfather, uncle and siblings. The patient took medication from various modern hospitals for one year, but the condition was deteriorated. He was also admitted in AIIMS, New Delhi on 9/5/16 for one week (UHID-10/633693), but no significant improvement was noticed after one year of treatment in AIIMS. So the patient decided to approach ayurvedic therapy. The case was planned for *Panchakarma* (biopurification) therapy. He was admitted in *Panchakarma* ward for 21 days initially.

### **Clinical Findings**

The following were findings on physical examination:

#### **a) General**

Pulse Rate: 92/min, regular, normal sinus rhythm, Blood Pressure 100/70 mmHg

Temperature: Afebrile, Respiratory Rate: 16/ min.

No Pallor/icterus/cyanosis/clubbing/pedal edema / palpable lymphadenopathy

#### **b) Systemic**

Per abdomen: Soft with no palpable organomegaly/ mass, no shifting dullness, bowel sounds were present

Respiratory & Cardiovascular System: within normal limits

Central Nervous System: Conscious, oriented, dysarthria present

Pupils normal sized, reacting to light

Normal gag reflex

No sensory loss/ parasthesias/ Seizures

Bilateral plantar reflexes- extensor

Bilateral reflexes- 3+, no clonus

No spasticity

Muscle power both limbs- within normal limits

*Nadi: Vata pitta*

*Mutra: Samyakpravritti*

*Mala: Constipated*

*Jiwaha: Clear*

*Shabda: Not clear*

*Sparsha: Rough*

*Drik: Glaucoma present*

*Akriti: Anxious*

*Nidra: Alpa*

*Prikriti: Vatapaittik*

*Sara: Madhyam*

*Samhanan: Madhyam*

*Pramana: Sama*

*Satmya: Madhyam*

*Sattva: Madhyam*

*Agni: Vishamagni*

*Vyayama Shakti: Madhyam*

*Ahara Shakti: Madhyam*

*Jaran Shakti: Madhyam*

### **Diagnostic Assessment**

The case was already presented in AIIMS, New Delhi where it was diagnosed as SCA, but subtype couldn't be confirmed due to unavailability of genetic mapping. MRI report was not available. The patient was

having *gadgadatva*(impaired speech) *kampa*(tremor), *kalayakhanjata*(Limping with tremor), *anidra*(insomnia), *purisa-apravrtti*(constipation), *paribhram*(imbalance) etc. These symptoms are mentioned in *nanatamajvata vyadhis*<sup>6</sup>. Hence it was concluded to be *vatavyadhi* as the *Ayurvedic* diagnosis which is considered as *asadhya*(incurable).

### Intervention

Considering the *asadhya* nature of the disease, *Ayurvedic* treatment was planned to alleviate the various symptoms and complication of the disease. The treatment is described in **Table no.1**.

All medicines except *Brihatvatachintamani* were provided free to the patient from the hospital; that's why when a medicine was not available other substitute was given (like *Trayodashanggu/ Yogarajguggulu, Agnitundivati/ Ekangaveerras, Ashwagandha/ Shatavari*)

*Niruhabasti* was prepared as per classical method described in text containing *Madhu*(honey) 25gm, *Saindhavalavana*(Rock salt) 5gm, *Tila tail* (sesame oil) 50 ml, *soya powder (Foeniculum vulgare)* 25gm and *RasnaErandadi kwatha* 300 ml.

### Follow-up and outcomes

Patient's condition was assessed on the Scale for Assessment and Rating of Ataxia (SARA)<sup>7</sup> before admission, after 1<sup>st</sup>, 2<sup>nd</sup> and

3<sup>rd</sup> sitting of *Panchakarma* which was 21, 16, 12 and 6, respectively (Table no.2). After 1<sup>st</sup> sitting of *Panchakarma*, the patient was able to join his duty once again (That's why there was 5 months gap after 1<sup>st</sup> sitting because it was a poor patient with no financial support). There was significant improvement in gait, speech & tremors,



**Table 1** Treatment plan for a case of SCA

<b>Sitting</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>
D.O.A.(OPD/IP D)	16/1/17 (130782/266)	29/6/17 (68109/3786)	29/8/17 (83326/5416)
Duration	21 days	15 days	10 days
<b>Oral medicines</b>	1. <i>Trayodashanggug</i> . 500mg twice a day with lukewarm water 2. <i>DashamoolaKwatha</i> – 50 ml twice a day 3. <i>Agnitundivati</i> 125mg thrice a day with water 4. <i>Brihatvatachintamani rasa</i> - 125 mg twice a day with honey 5. <i>Ashwagandharista</i> - 15 ml twice a day after meal with equal amount of water	1. <i>Yogarajguggulu</i> 500 mg twice a day with lukewarm water 2. <i>RasnaErandadiKwatha</i> – 50 ml twice a day 3. <i>BrihatVatachintamani rasa</i> - 125 mg twice a day with honey 4. <i>Shatavariguda</i> - 5gm twice a day with milk	1. <i>Trayodashanggug</i> . 500mg twice a day with lukewarm water 2. <i>DashamoolaKwatha</i> – 50 ml twice a day 3. <i>Ekanveera rasa</i> - 125 mg thrice a day with water 4. <i>Brihatvatachintamani rasa</i> - 125 mg twice a day with honey 5. <i>Ashwagandha Ch.</i> -3 gm along with <i>muktashuktibhasm</i> - 250 mg twice a day with milk
<b>Panchakarma Procedures</b>	1. <i>PPS</i> with <i>Dhanvantaram tail</i> (30 minutes each day) 2. <i>Shirodhara</i> with <i>ksheerabala tail</i> (30 minutes each day) 3. <i>Kala Basti</i> (for 15 days) <i>Anuvasana</i> with <i>Ksheerabala tail</i> - 50 ml (after meal) <i>NiruhawithRasnaErandadiKwatha</i> - 300 ml (alternate days empty stomach)	1. <i>PPS</i> with <i>Ksheerabala tail</i> (30 minutes each day) 2. <i>Shirobasti</i> with <i>Dhanvantaram tail</i> (30 minutes each day) 3. <i>MatraBasti</i> with <i>Ksheerabala tail</i> - 50 ml after meal (for 10 days)	1. <i>PPS</i> with <i>Ksheerabala tail</i> (30 minutes each) 2. <i>Kati Basti</i> with <i>Panchaguna tail</i> (30 minutes each day) 3. <i>Yoga Basti</i> (for 8 days) <i>Anuvasana</i> with <i>Ksheerabala tail</i> - 50 ml (after meal) <i>NiruhawithRasnaErandadiKwatha</i> - 300ml (alternate days empty stomach)

\**gug- Guggulu*\* *PPS- PatraPindaPottaliSwedana***Table 2** Assessment on the Basis Of SARA (Scale for Assessment and Rating of Ataxia )

<b>S. No.</b>	<b>Grading criteria</b>	<b>Score before admission</b>	<b>Score after 1st sitting</b>	<b>Score after 2<sup>nd</sup>sitting</b>	<b>Score after 3<sup>rd</sup>sitting</b>
1.	Gait	3	2	2	1
2.	Stance	4	3	2	1
3.	Sitting	2	2	1	0
4.	Speech disturbance	3	2	2	1
5.	Finger chase	2	1.5	1	0.5
6.	Nose- finger test	3	2.5	2	1
7.	Fast alternating hand movements	2	1.5	1	0.5
8.	Heel-shin slide	2	1.5	1	1
9.	<b>Total Score</b>	<b>21</b>	<b>16</b>	<b>12</b>	<b>6</b>

autonomic dysfunctions were also improved. Insomnia and constipation were relieved. He was advised to continue treatment for glaucoma from AIIMS. After

3<sup>rd</sup>sitting, the patient was instructed to repeat *Panchakarmatherapies* at 3 months interval for optimum relief.

**Table No.2**

## DISCUSSION

The dominantly inherited ataxias, now called spinocerebellar ataxias (SCAs), are progressive disorders in which the cerebellum slowly degenerates, often accompanied by degenerative changes in the brainstem and other parts of the central nervous system<sup>8</sup>. The patient was diagnosed for *Vatavyadhis* as *dhatuksaya* is the main causative factor and pathology in the disease. The general line of treatment for *Nanatmajavatavyadhis* was taken into consideration for this case. Patient was treated with *Panchakarma* therapies along with oral medicines as discussed above with significant relief.

Considering the *Dhatukshaya*, *Santarpana* in the form of *kalabasti* /*Matrabasti*/*Yoga basti* with *Ksheerabalataila anuvasana*, *Abhyanga* & *Patra Pinda Pottali Swedan* with *Dhanvantaram tail*, *Shirodhara* with *Ksheerabala tail* and *Shirobasti* with *Dhanvantaram taila* was given. This resulted in significant improvement in this patient.

In Ayurveda, brain is considered to be form of *majjadhara kala*<sup>9</sup>. Unsteadiness and blurred vision are described in *majjapradosaja vikaras*<sup>10</sup>. *Tiktadi* and *madhura* drugs are indicated in *majjagata* diseases<sup>11</sup>. So *Madhura-Tiktadi* drugs like *Bala*, *Ashwagandha* and

*Shatavari* were used to relieve unsteadiness and vision element.

*Shirodhara* is beneficial for insomnia, depression and anxiety disorders<sup>12</sup>. In this case *Shirodhara* was planned to relieve anxiety and depression due to loss of job and some family dispute. *Shirobasti* is indicated in *Shirahkampa* (axial tremor) and heaviness of the head in *Ayurveda*<sup>13</sup>. In this case *Shirobasti* was done with *Dhanvantaram oil*. This oil has *vatashamaka* and *Brihmana* properties. *Shirobasti* is indicated for five to seven days or more in *shiro-rogas* (diseases of the head). Primary lesion of this disease was in the brain. *Shirobasti* was given for 15 days in this case due to chronicity of more than 2 years of this disease.

*Abhyanga* with *Ksheerabala tail* has nourishing effect on muscles and peripheral nerves. *Patra Pinda Pottali Swedana* is effective in neuromuscular disorders and peripheral neuropathy. *Kati basti* with *Panchaguna tail* was done for lower back ache. Local *abhyanga* and *swedana* on lumbosacral region, inguinal region and lower abdomen were administered before each *basti*.

*Brihat -vatachintamani rasa* is indicated in all type of *Vataja* disorders<sup>14</sup>. *Agnitundivati* helps in improvement of metabolic activities at cellular level (*agnipradipti*) and also ameliorates depleted condition of

body. *Dashamoola kwatha* is useful in all types of *vataja* and respiratory disorders and has *tridoṣaghna* property. *Rasnaerandadi kwatha* is indicated in pain due to vata and neurological disorders<sup>15</sup>. *Ashwagandha/ Shatavari* has *balya*(anabolic) and *rasayana*(immunomodulator) properties. *TrayodashangGuggulu/YogarājaGuggulu* is useful in all types of *Vataja* and neurodegenerative disorders<sup>16</sup>. Significant improvement in dysarthria, unsteady gait, axial tremors and facial expressions were observed in this case. Gradual improvement was noticed in every month in this case but assessments for scoring was done at the time of admission and discharge every time. SARA score in this patient was 21 before treatment which reduced to 16, 12 and 6 after 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> sitting of *Panchakarma*. At the end of treatment, the patient was advised admission for *Panchakarma* procedures after 3 months considering his financial condition and requirement of therapies to stop further worsening of symptoms. Now the patient is under continuous follow up for observation and treatment with stable condition and hopes more recovery from the disease. This is an important outcome considering the prognosis and non availability of satisfactory medication. This shows that

Ayurveda may be considered of great help for treatment of SCA patients. This combined Ayurvedic therapy with oral *vatapittahara* drugs along with *Abhyanga*, *PatraPindaPottali Swedana*, *Shirodhara*, *Shirobasti*, *Kala basti* and *Matra basti* may be considered for further treatment and research on various types of SCAs.

## CONCLUSION

SCA can be managed with *Ayurvedic* medicines and *Panchakarma* therapies. This case study shows that SCAs patients may be treated with satisfactory outcome with *Ayurveda*. The findings may be helpful for conducting further research work for different types of SCAs.



## REFERENCES

1. <https://www.dizziness-and-balance.com> (modified January 2016)
2. Durr A. (2010). Autosomal dominant cerebellar ataxias: polyglutamine expansions and beyond. *Lancet Neurol*, 9:885-94.
3. Schöls L, Bauer P, Schmidt T, et al.(2004). Autosomal dominant cerebellar ataxias: clinical features, genetics, and pathogenesis. *Lancet Neurol*, 3:291-304.
4. Sriranjini SJ, Pal PK, Devidas KV, Ganpathy S. (2009). Improvement of balance in progressive degenerative cerebellar ataxias after Ayurvedic therapy: A preliminary report. *Neurol India* 57:166-71.
5. Sarvesh Kumar Singh, Kshipra Rajoria.(Jan-Mar 2016). Ayurvedic approach in the management of spinocerebellar ataxia-2: A case study. *India Ancient Science of Life / Vol 35 / Issue 3*
6. Brahmasankar M. Bhavaprakasha Madhyakhanda. (1980). Vidyotini Hindi commentary. 24/5-16. 5th ed. Varanasi: Chaukhambha Sanskrit Sansthan; p. 228.
7. Schmitz-Hubsch T, Fimmers R, Rakowicz M, Rola R, Zdzienicka E, Fancellu R, et al. (2010). Responsiveness of different rating instruments in spinocerebellar ataxia patients. *Neurology* 74:678-84.
8. Taroni F, DiDonato S. (2004). Pathways to motor incoordination: the inherited ataxias. *Nat Rev Neurosci* Aug;5(8):641–55. [PubMed: 15263894]
9. Aathavale AD.(1980). AstangaSangrah; Indu commentary. *Sharirasthan* 5/22. Pune: Srimada Atreya Prakashanam; p. 297.
10. Pandey GS, Sastri K.(2006). Caraka Samhita; Vidyotini Hindi commentary. *Sutrasthan* 28/17. Vol. 1. Varanasi: Chaukumba Sanskrit Sansthana; p. 572.
11. Pandey GS, Sastri K. (2006).Caraka Samhita; Vidyotini Hindi commentary. *Sutrasthan* 28/28. Vol. 1. Varanasi: Chaukumba Sanskrit Sansthana; p. 573.
12. Uebaba K, XuFH, Ogawa H, Tatsuse T, Wang BH, Hisajima T, et al. (2008). Psychoneuroimmunologic effects of Ayurvedic oil dripping treatment, *J Altern Complement Med*. 14: 1189-98 [PubMed]
13. Brahmanand T.(2004). Sarangdhar Samhita; Dipika Hindi commentary. *Uttarakhand* 11/127. Varanasi: Chaukhamba Surbharati Prakashan; p. 410.
14. Siddhinandan M.(2007). Bhasajyaratnavali. Sidhiprada Hindi commentary, 5/1095-1097. Varanasi: Chaukhamba Surbharati Prakashan; p. 185.
15. The Ayurvedic Formulary of India, (2003).G.O.I., Ministry of H.F.W., ISM & H, New Delhi, Part-I, 4:29, Pg. 61.

16. Siddhinandan M. (2007).  
Bhaisajyaratnavali. Sidhiprada Hindi  
commentary, 29/157. Varanasi:  
Chaukhamba Surbharati Prakashan; p. 608.