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Management Of Syringomyelia Through Ayurvedic Modalities- A Case Study

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ABSTRACT

Background: Syringomyelia is a developmental cavitary expansion of the cervical cord that is prone to enlarge and produce progressive myelopathy. The classic presentation is a central cord syndrome consisting of a dissociated sensory loss and areflexic weakness in the upper limbs. In present case patient diagnosed as Arnold chairi malformation type-1 with Syringomyelia presented with quadriplegia was treated with *Sarvanga vata chikitsa* principle. **Methods:** A 35 years old male patient came on wheel chair (OPD N0- 18536 on 02/07/2022) presented with loss of strength in bilateral upper limbs since one and half year, reduced strength in lower limbs and difficulty in standing, slurred speech since 1 year, unable to walk and reduced appetite, stiffness of the neck and low back ache, pain in left shoulder joint since 4 months was treated with *panchakarma* procedures such as *Greeva basti, Shastikashali pinda sweda, Nasya* and *Mustadi raja yapana basti* along with oral medications. **Result:** Marked improvement was noticed in bilateral lower limbs in bulk and power. Symptoms like stiffness in the neck and back, pain in left shoulder joint got reduced. Appetite improved. Patient is able to stand without support and walk with support for short duration. **Conclusion:** The present case of syringomyelia managed with the treatment principle of *Sarvanga vata*.

KEY WORDS: Syringomyelia, *Sarvanga vata, Raja yapana basti*

INTRODUCTION

Syringomyelia is a developmental cavitary expansion of the cervical cord that is prone to enlarge and produce progressive myelopathy. Symptoms begin insidiously in adolescence or early adulthood, progress irregularly, and may undergo spontaneous arrest for several years. Many young patients acquire a cervical-thoracic scoliosis. More than half of all cases are associated with Chiari type 1 malformations in which the cerebellar tonsils protrude through the foramen magnum and into the cervical spinal canal. The pathophysiology of syrinx expansion is controversial, but some interference with the normal flow of CSF by the Chiari malformation. Acquired cavitations of the cord in areas of necrosis are also termed syrinx cavities, these follow trauma, myelitis, necrotic spinal cord tumors, and chronic arachnoiditis due to tuberculosis and other etiologies.

The classic presentation is a central cord syndrome consisting of a dissociated sensory loss and areflexic weakness in the upper limbs. The sensory deficit is recognizable by loss of pain and temperature sensation with sparing of touch and vibration in a distribution that is "suspended" over the nape of the neck, shoulders, and upper arms (cape distribution) or in the hands. Most cases begin asymmetrically with unilateral sensory loss in the hands that leads to injuries and burns that are not appreciated by the patient. Muscle wasting in the lower neck, shoulders, arms, and hands with asymmetric or absent reflexes in the

arms reflects expansion of the cavity into the gray matter of the cord. As the cavity enlarges and further compresses the long tracts,

spasticity and weakness of the legs, bladder and bowel dysfunction, and a Horner's syndrome appear. Some patients develop facial numbness and sensory loss from damage to the descending tract of the trigeminal nerve. In cases with Chiari malformations, cough-induced headache and neck, arm, or facial pain are reported.

Extension of the syrinx into the medulla, syringobulbia, causes palatal or vocal cord paralysis, dysarthria, horizontal or vertical nystagmus, episodic dizziness, and tongue weakness.[1]

Estimated prevalence of the disease is about **8.4 cases per 100,000 people** and occurs more frequently in men than in women. The disease usually appears in the third or fourth decade of life, with a mean age of onset of 30 years[2]. Treatment of syringomyelia is unsatisfactory. The chiari tonsillar herniation is decompressed by suboccipital craniectomy, upper cervical laminectomy and placement of dural graft. A patient diagnosed as Arnold Chairi malformation type1with Syringomyelia presented with quadriplegia was treated as per the treatment principle of *Mastishka roga*[3] and *Sarvanga vata chikitsa*[4].

CASE REPORT

A 35 years old male patient came on wheel chair (OPD N0- 18536 on 02/07/2022) presented with loss of strength in bilateral upper limbs since one and half year, reduced strength in lower limbs and difficulty in standing, slurred speech since 1 year, unable to walk and reduced appetite, stiffness of the neck and low back ache, pain in left shoulder joint since 4 months. He was treated surgically for Arnold Chairi malformation type1 in Apollo BGS hospital Mysuru and NIMHANS Banglore. Symptoms had not shown any improvement.

Table no.1. Showing time line of the case

Date	Clinical events and intervention
20/04/2020	Loss of sensation, roughness, numbness in left upper limb MRI SPINE- Arnold Chairi malformation type1 with cervico thoracic syrinx
05/04/2020	Underwent *ayurvedic* treatment procedures; *Geeva basti, Kati basti, Sarvnga abhyanga* and *Kala basti* for 15 days
17/08/2020	Numbness and burning sensation in bilateral upper limbs MRI SPINE- Chairi 1 deformity with cervicodorsal syrinx Cerebellar tonsils appear peg shaped and low lying (upto 11mm below the Mcrae line) Crowiding of neurovascular structure at the level of foramena magnum Cervicodorsal syrinx with cord expansion noted from cervicomedullary junction upto D11 level. Mild degenerative changes of cervical spine with multilevel marginal osteophytes and discosteophyte complexes. Degenerative disc disease at L5-S1 level with posterior marginal osteophyte and broadposterior disc bulge. Arnold Chairi malformation type1 with Cervico Thoracic Syringomyelia
7/10/2020	Admitted in Apollo BGS Hospital, Mysuru on 7/10/2020 and underwent Right C1-C2 facet distraction 1.C1 lateral massnad C2 pass stabilization by titanium plate and screws 2.Foramen magnum decompression and posterior C1 arch excision under GA on 8/10/2020. Patient improved symptomatically and discharged on 12/10/2020 with Tab. Taxim O 200mg, Tab. Ultracet , Tab. Maxgalin 75mg BD, Tab. Pan 40mg OD and Tab Eliwel 25mg HS
23/02/2021	Admitted in JSS Hospital Mysuru with complaints of Vomiting, epigastric pain and chills MRI BRAIN- Gross syrinx with cerebellar tonsils and ventriculomegaly. Discharged with Oral Glycerol 15ml, Syp Sucralfate 10ml TID and Tab Nexpro RD OD for 1 week on 01/03/2021
03/03/2021	Admitted in NIMHANS Banglore on 03/03/2021 with c/o Head ache and vomiting.

	CT Brain- Gross Ventriculomegaly with periventricular ooze Underwent Right fraziers point MPVP shunt on 3/3/2021 Dischreged on 4/3/2021 with Tab Dynapar BD tab Rantac for 3days
19/06/2021	Had fall in the house, paralysis of bilateral upper and lower limbs, slurred speech
08/07/2021	CT Cervical Spine- Post-operative changes involving the upper cervical spine.
09/07/2021	MRI Cervical Spine-Cervico-dorsal cord syrinx noted extending from cervicomedullary junction till the lower dorsal D11 level. Postoperative changes with defect in occipital bone noted. Defect in posterior arch of Atlas noted. T2 hypointense soft tissue with enhancement noted at postoperative site s/o postoperative fibrosis. Metallic implant noted in situ in right pedicle of C2. Residual tonsillar herniation with compression of cervicomedullary junction noted. Posterior disc osteophyte complex noted at C3-4, C4-5, C5-6 levels causing indentation of ventral thecal sac.
06/05/2022	Physiotherapy for 60 days

EXAMINATION ON ADMISSION
Patient was afebrile with pulse 96/min and blood pressure 110/80mm Hg
PHYSICAL EXAMINATION

- CNS examination – Patient was conscious and well oriented to time, place and person.
- Respiratory and Cardiovascular system- No added sounds
- Per abdomen- Non-tender and bowel sounds were present
- Sensory Examination was intact
- Motor Examination

Table no 2. Showing motor system examination

Muscle bulk	RIGHT		LEFT	
	Before treatment	After treatment	Before treatment	After treatment
MUSCLE BULK				
Mid-arm circumference	22.5cm	23cm	22cm	22cm
Mid Fore arm	19.5cm	19.7cm	17.4cm	17.5cm
Mid-thigh	44.3cm	45cm	45cm	45.5cm
Calf	28.7cm	29cm	30.7cm	30.8cm
POWER				
Shoulder, Elbow	1/5	1/5	1/5	1/5
Hand grip	Nill	Mild	Nill	Nill
Hip,Knee, Ankle	2/5	3/5	2/5	3/5
TONE				
Upper limb	Hypotonia	Hypotonia	Hypotonia	Hypotonia
Lower limb	Hypertonia	Hypertonia	Hypertonia	Hypertonia
DTR				
Biceps	0	0	0	0
Triceps	0	0	0	0
Brachioradialis	0	0	0	0
Knee	4+	4+	3+	3+
Ankle	4+	4+	3+	3+

Gait- Scissor gait
Superficial reflexes
Babinski sign- Positive
Abdominal reflex- Normal

Table no. 3 Showing blood investigations on 03/07/2022

Haemoglobin	13.9gm/dl
Total WBC	6500cells/cumm
Platelet count	1.93 lakhs/cumm
RBC	4.9million/cumm
ESR	35mm/hr
LFT	
SGOT	23U/L
SGPT	17U/L
Alkaline Phosphate	160IU/L
Total Protein	9.2g/dl
Serum albumin	5.4g/ dl
Serum globulin	3.8g/dl
A/G ratio	1.4

Table no.4 Showing treatment given in GAMC&H Mysuru

PANCHAKARMA PROCEDURES	
3/07/22 - 5/07/2022	*Sarvanga abhyanga* with *Sahacharadi taila* followed by *nadi sweda*
6/7/2022-12/7/2022	*Greeva basti* with *Karpasastyadi taila* and *Prasarini taila* followed by *Sthanika abhyanga* and *Shasthika Shali Pinda Sweda* *Nasya* with *Dhanwantara* 101 drops 2.5ml in each nostril
16/7/2022-30/7/2022	*Greeva Basti* with *Karpasastyadi taila* and *Prasarini taila* followed by *Sthanika abhyanga* with *Samisha mahamasha taila* and *Shasthika shali pinda sweda* *Musatdi Rajayapana basti* in *kala basti* pattern Honey-100ml *Saindhava lavana*- 6gms *Ksheerabala 7 avartini taila* 75ml+ *Ashwagandha yamaka* 75ml *Mustadi rajayapana basti kalka churna*+ *Aswagandha churna* 5gms *Mustadi rajayapana basti kashaya*-200ml *Anuvasana basti Ksheera bala 7 avrtini* 35ml+ *Ashwagandha yamaka* 35ml
SHAMANOUSHADHI	
3/07/2022-5/07/2022	*Agnitundi vati* 1TID Before food
3/07/2022-3/08/2022	*Ashwagandha Churna* 1tsf BD with milk
16/7/2022-3/08/2022	Tab. *Panchamrita lauha guggulu* 1-1-1 Cap. *Ksheerabala* 101 1-0-2 Tab. *Ekangaveera rasa*1-1-1
ADVICE ON DISCHARGE	
4/8/2022-4/9/2022	Tab. *Panchamrita lauha guggulu* 1-1-1 Cap. *Ksheerabala* 101 1-0-2 Tab. *Ekangaveera rasa*1-1-1 *Ashwagandha churna* 1tsf BD with milk *Kushmanda rasayana* 1tsf OD with milk

RESULT

Marked improvement was noticed in bilateral lower limbs in bulk and power. Symptoms like stiffness in the neck and back, pain in left shoulder joint got reduced. Appetite improved. Patient is able to stand without support and walk with support for short duration. However, no significant improvement seen in left upper limb.

DISCUSSION

Syringomyelia can be considered as a state of *vata vriddhi*, where in the *pravriddha vata* occupies the abode of *majja dhatu*[5]. Due to *laghu, chala* and *ruksha* properties of *vata, bedhana* effect happens inside the *majja vaha srotas*. This can be correlated to the formation of syrinx. In syringomyelia initial symptom is loss of sensation, hence medicine that regulate *vata* needs to be used. When *vata vriddi* happens at *majja dhatu* located in *shira sthana*, condition termed as *mastishka chaya* occurs. *Shiro ruja, bhrama, murcha, pakshagata, bala hani and akshepa* are the complications of *mastishka chaya*. In this case patient presented with quadriplegia can be understood as one of the complication of *mastishka chaya* presenting as *sarvanga vata*. By assessing the condition of the patient, *sarvanaga vata chikitsa* principle was applied.

Mode of action of *Greeva basti*

Greeva basti nourishes the joints of the neck, pacifies the dosha causing pain and discomfort, soothenes the nerves, relieves degeneration , stiffness and inflammation. *Karpasastyadi taila* having *ushna guna, vata-kaphahara* action and is indicated in *sarva vata roga, apabhuka, pakshaghata and ardita. Prasarini taila* having *ushna veerya,* improves the circulation and *brimhana & tarpana* properties acts on degeneration of bone.

Mode of action of *Shashtika shali pinda sweda*

Swedana by *shastika shali* dipped in *balamoola kwatha* with *godugdha* increases the blood flow locally, relives muscle spasm and provides pain relief. *Bala* absorbed locally provides nourishment to muscular tissue and counters emaciation. *Masha taila* with *ushna veerya, brimhana* and *vata kaphahara* action is *shresta* in *urdwa jatru roga. Samisha masha taila* increases the muscle bulk by the principle of "*samanyam vriddikaranam".*

Mode of action of *Nasya*

"Nasa hi shiraso dwara", so medicine administered through *nasa* reaches the *shrungataka marma*, spread throughout the brain and helps to expel out *dosha*.
Dhanwantara taila having *sarva vatahara* property is used for *nasya* in this case.

Mode of action of *Mustadi raja yapana basti*

"*Basti vataharanam sreshta*". *Yapana basti* is having *rasayana* effect and can be administered for longer duration without any adverse effects. *Musatadi raja yapana basti* have *vatahara* and *rasayana* properties. It is a type of *Niruha Basti*, does the *Shodhana* as well as it gives strength to the patient. "*Sadyo-Balajanana*" (improves the strength quickly) is the unique quality of *Rajayapana basti*.

Mode of action of *Panchamrita loha guggulu*

It is mentioned in *mastishka roga prakarana* and is also helpful in *snayugata roga*. It is *balya, rasayana, shoolahara*.

Mode of action of *Ekanga veera rasa*

It is having *teekshna, brimhana and rasayana* properties and indicated in *pakshagata, ardita, ardhanga vata and sarva vata roga.*

Mode of action of *Ksheera bala 101*

It is having *vata kapha hara* action.

Mode of action of Ashwagandhara churna

It is *vatahara* and acts by rejuvenating the neural tissues which serves the action of *rasayana* in current case.

CONCLUSION

The present case of syringomyelia managed with the treatment principle of *sarvanga vata.*

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