

Management of Quadriparesis Through Ayurveda: A Case Report

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ABSTRACT

In an instance of vertebral fracture with motor impairment, an Ayurvedic therapy plan was used. The outcome was assessed. A 55-year-old female had fallen on back and suffered anterior compression of L2 vertebra along with motor dysfunction. The patient came for Ayurvedic treatments because she could not get significant improvement by mainstream medical treatments that she took for several months. External and internal herbal treatments, as well as physiotherapy, were used to treat the patient. Motor function assessment was used to track the treatment's success. Results: The treatment was found effective as the motor function improved without any side effects or complications. It could be concluded that this treatment protocol could be used for management of spinal fractures. Also, these observations could form the basis for future clinical trial.

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INTRODUCTION

Quadriparesis is a condition in which there is muscle weakness in both the arms and legs. This disability can be temporary or permanent. There are two types of quadriparesis, spastic and flaccid. When the nerves carrying signals from body to brain via spinal cord are damaged, it leads to quadriparesis. The causes can be congenital (muscular dystrophy, cerebral palsy, etc.), diseases affecting spinal cord (polio, lyme disease, etc.), falls, injuries, etc. The diagnosis can be done by nerve conduction study or electromyography. Treatment mainly involves pain management, physiotherapy and muscle relaxants. This patient had flaccid quadriparesis. It occurs when muscles in both the arms and legs are afflicted by weakness, which may either be stable or worsen over time. Individuals with flaccid quadriparesis have decrease in muscle tone and generally experience significant fatigue with normal activities. Usually, flaccid quadriparesis originates in the spinal cord.¹

Causes of flaccid quadriparesis are lesions or tumors in the spinal cord; spinal cord injuries caused by falls causing vertebral fracture, car accidents, or ruptured intravertebral disks; or neurologic disorders. This patient had a history of fall that led to vertebral fracture. A vertebral compression fracture occurs when the vertebral body in the spine buckles, causing significant pain, deformation, and height loss.² The major reason behind vertebral fracture is osteoporosis.

In moderate osteoporosis, compression fracture usually occurs due to increased force or trauma, such as falling down or attempting to lift a heavy object. It is the commonest fracture in patients with osteoporosis that affects about 750,000 people annually and majority are of postmenopausal age. The most prevalent symptoms are a rapid onset of backache, a rise in the degree of discomfort while standing or walking and relief on lying on back. Eventually it can lead to deformity and disability.³ The patient being in her menopausal age was prone to osteoporosis and thus the fall led to the fracture of vertebra.

KEYWORDS:

Vertebral compression,
Ayurveda,
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The symptoms of quadriparesis mentioned above can be correlated with vatavyadhi or sarvanggata vata. When vitiated vata is located all over the body, it produces gatra sphurana(fasciculation) and bhanjana (breaking pain) and the generalized joint crepitus.4

When this vitiated vata is located in bones and marrow it leads to bhedo asthi parvanam (splitting pain of bones and joints),sandhi shool (arthralgia),mamsa bala kshaya (loss of muscle strength), aswapna (insomnia) and santata ruk (continuous pain).5

As the symptoms which the patient presented with were similar to sarvang gata vata, she was treated as per the general line of treatment of vatavyadhis "sarvang kupite abhyango bastayaha sanuvasana" i.e by abhyanga (oleation) and basti (medicated enema).6

Here, a case report has been presented of a patient who was given Ayurvedic treatment for vertebral fracture induced quadriparesis.

Case presentation

The patient's signed informed consent included her authorization to snap photographs. The normal protocol for

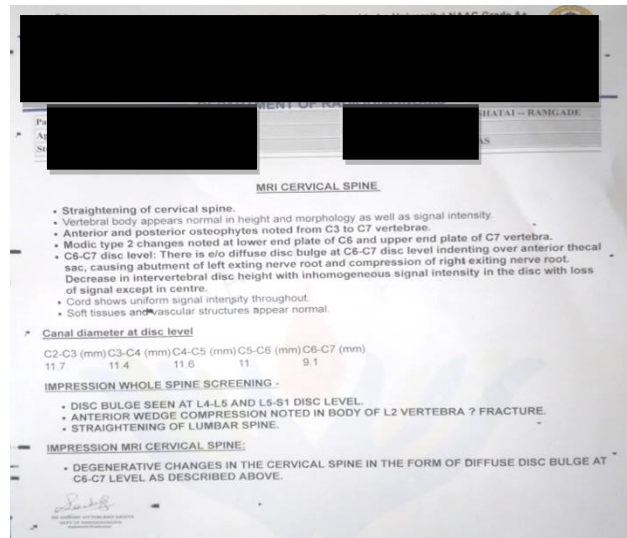
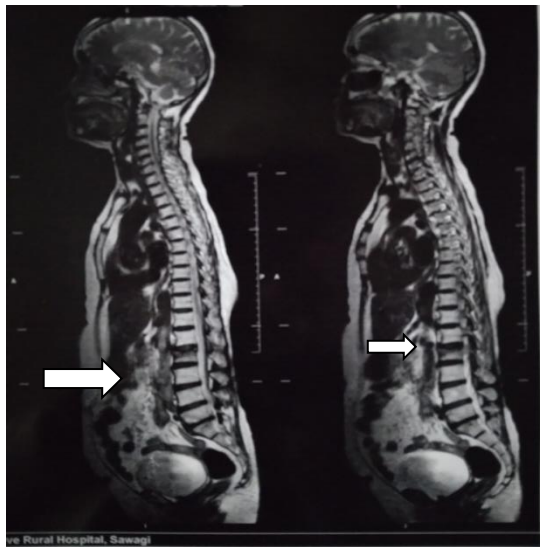
vatavyadhi management was followed.

Clinical History

A 55-year-old female patient came with the complaints of pain in back, inability to hold things in hands and weakness in both legs since two months. She also revealed that she had fallen by slipping after which the symptoms appeared.

Following the consultation of a physician she was referred to a neurologist who advised her MRI of the spine that was done in 2022 and it revealed as anterior wedge compression in body of L2 vertebra with suspicion of fracture. She was prescribed steroids, calcium supplement with multivitamins and analgesics along with the use of a lumbar belt. Despite of fall, her sphincter control was intact. After the medications, she got intermittent relief from pain. Observing only transient improvement, the patient decided to seek Ayurvedic treatment starting from April 2022.

Patient complained of pain in lumbar region and weakness in both lower limbs and hands. She could not walk or sit for long at the time of reporting for Ayurvedic consultation and management. Her hands felt weak and could not do her day to day activities. As a result, the patient was treated utilising the following regimens while the outcome was evaluated at the end of the regimen.



Management

Shaman chikitsa

Table I	Dose	Time	Anupan	Duration
Lakshadi guggulu	250mg 2 tabs. BD	After meals	Water	1 month
Tab. Ashwagandha	250 mg 2 tabs. BD	Before meals	Water	1 month
Tab. Shallaki forte	250mg one tab. TDS	After meals	Water	1 month
Ekaangveer Ras	125 mg 2 tabs. BD	After meals	Water	1 month

Shodhana Chikitsa

Table II	Drug	Duration
Snehan- ubhay hasta and pada(Both hands and legs)	ksheerbala tail	15 days
Manya, Prishtha , katibasti (Placing oil on neckand back)	dashmool tail	15 days
Nadisweda (fomentation)	Nirgundi+dashmool kwath	15 days
Matrabasti (medicated enema)	ksheerbala tail(30ml)+ Dashmool tail(30 ml)	Kaala Basti (15 days) (For Koshtha Shuddhi purpose, Niruha Basti was administered for consecutive 3 days, then alternate Niruha and Anuvasana Basti were given for rest of the 12 days.)
Niruhabasti (medicated enema)	Madhu–15 mL Saindhava–10 g Til Taila–50 mL Dashmool kwath (500ml) Shatpushpakalka- 30gm	
Physiotherapy - Hotpack, TENS	-	15 days

Table III: Treatment on discharge (for 15 days)

Medicine	Dose	Time	Anupan
Ashwagandha churna + abhrak bhasma	1gm+250mg twice a day	after meals	Water
Ekaangveer rasa	125 mg 2 tabs. BD	after meals	Water
Khanjanikari rasa	125mg one tab. OD	after meals	Water
Lakshadi guggulu	250 mg 2 tabs BD	after meals	Water
Ashwagandha ghrita	1 tsf in morning	Empty stomach	warm water
Balaashwagandha tail	For Local application	-	-

Assessment and clinical outcome

Table IV: Subjective assessment -

		DOA	After 7 days	After 14 days	After 30 days
1.	Tie hair on her own	No	No	No	Yes
2.	Apply buttons of the bodice	No	No	Yes	Yes
3.	Tie knot of the skirt of saree	No	No	Yes	Yes
4.	Hold mug	No	No	For 0.5 minute	For >1 minute
5.	Do daily activities without assistance	No	No	Yes	Yes

Functional assessment

The following periodical functional tests were carried out for objective assessment of the improvement of the patient.

Walking time: The patient was guided to walk 25 feet of distance with maximum speed and the time taken was monitored using a stop watch before, during and after the therapy.

Grip strength: Ability of the patient to compress an inflated

regular cuff of sphygmomanometer under standard settings was measured before, during, and after therapy to determine functional capability of the afflicted upper limb.

Foot pressure: Foot pressure was measured using the patients' ability to press a weighing machine to get an objective picture of their functional capability in the legs.

General functional capacity

- Complete ability to carry on all routine duties 0
- Adequate normal activity despite slight difficulty in joint movement 1
- Few activities are persisting, but patient can take care of himself 2
- Few activities are persisting and patient requires an attendant to take care of himself 3
- Patients are totally bedridden 4

Table V		DOA	After 7 days	After 14 days	After 30 days
1.	Walking time(25 ft.)	30 sec.	25 sec.	20 sec.	18 sec.
2.	Grip strength - Rt. hand - Lt. hand (Std. 10 mmHg)	No rise No rise	0 mm hg No rise	Upto 18 mm Hg Upto 15 mm Hg	Upto 20 mm Hg Upto 18 mm Hg
3.	Foot pressure - Rt. leg (Std. 0kg) - Lt. leg	upto 5 kg upto 4 kg	upto 5 kg upto 5 kg	upto 5 kg upto 5 kg	upto 9 kg upto 9.4 kg
4.	General functional capacity	2	2	1	0

Table VI: Pain assessment

DOA	After 7 days	After 14 days	After 30 days
8/10	7/10	5/10	3/10

DISCUSSION AND CONCLUSION

There are two causative factors for Vatvyadhi : Srotorodha(obstruction of channels of body), Dhatukshaya (decrease in healthy seven dhatus) or Marma abhighata (injury to the vital points). Thus, a protocol has been employed to conquer vitiated vata. The major treatment being basti (medicated enema), as it possesses a wide spectrum of effect and is thought to be “Ardhachikitsa” (half of treatment) in Ayurveda. It is given in pakwashaya (rectum) which is main seat of vata dosha(humor) , thus it helps in pacifying vata that is the leading cause of diseases.

Secondly, ksheerbala tail was employed for snehana and basti. It is frequently cited in Ayurveda and has been widely utilised in neurological and cardiovascular illnesses, with analgesic, anti-inflammatory, and hepatoprotective properties. Ksheerbala Taila can treat all chronic Vata diseases (Vata Nanatamja Vikara), including Katishoola (low back discomfort), Katigraha (Gridhrasi, sciatica), and Sandhigata Vata (osteoarthritis), Ardhangavata (~hemiplegia), etc.⁷ These healing properties arise due to cow milk, bala (Sida Cordifolia) and Tila Taila.

Similarly swedana and manya, prishtha ,kati basti with Dashamoola kwatha and Dashamoola taila respectively cause vatashamana, strengthen the body(balya), and cause deepana & pachana which stabilizes the vitiated doshas that in turn prevents the progress of the disease.⁸

Thirdly, the shamana medication, Lakshadi guggulu constitutes of guggulu(Commiphora mukul),

Laksha(Laccifer lacca), Asthisanharaka (Cissus quadrangularis), Ashwagandha(Withania somnifera) and Nagabala(Grewia hirsuta). Majority of the drugs have Vata-kaphanashaka, balya, rasayana, deepan-pachana, vedanashamaka & shoolaprashamaka properties. A preparation having the above properties is likely to pacify the sarvang gata vata and arrest its further vitiation.

Shallaki is used in the treatment of musculoskeletal entity as it contains Salai, Guggul, Haridra, and Sunthi, which has anti-inflammatory and analgesic property. The combined effect of overall therapy helped to decrease swelling, stiffness, and pain by breaking the pathogenesis of disease.⁹

In the Vatvyadhiprakarana of Nighantu Ratnakara, Ekangveer ras has been mentioned in the treatment of Pakshaghata, Ardita, and other Vatvyadhis. Ekangveer Ras has the ability to pacify vitiated Vata as it has SnigdhaGuna, UshnaVeerya and Madhura Rasa and Madhura Vipaka.¹⁰

Also, for healing purpose guru, snigdha, kashaya food substances were advised.

Lastly, to regain strength in the hands physiotherapy was planned for the patient that included hot pack and TENS. Hot pack relaxes the muscles, increases circulation and increases oxygen uptake that further leads to quicker tissue healing.¹¹ TENS is a mode through which electrical stimulation is done that provides relief in pain symptomatically as it excites the sensory nerves.¹²

Eventually, the patient got relief from the major symptoms that troubled her in performing day to day chores. Now, she could perform her tasks independently and could avoid

perpetual reliance on analgesics and surgeries. It builds a faith over Ayurvedic therapies and provides a scope for further research.

Ethical Approval

For the confidentiality of the patient, particulars disclosing the identity were hidden. Being a case report, it is exempted from approval from IRB.

Source of funding

Nil

Conflict of interest

None

Informed consent

Consent of the patient was taken before clicking the photographs and for publication in reputed journal.

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Author's contribution

The treatment plan was decided by Dr. Vaishali Kuchewar mam. Data collection, compilation and designing the study were done by rest of the authors. All the drafts were approved by authors before publication.

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