

An Ayurvedic Case Study of Spinal Cord Injury

Emanuele James*, Meres Zurta

Service of Spine Rehabilitation, Italy

*Corresponding Author : Emanuele James, Service of Spine Rehabilitation, Italy. Email: emanueljames@gmail.com

Received date: January 15, 2018; Accepted date : January 28, 2018; Published date: February 05, 2018.

Citation : Emanuele James, Meres Zurta, An Ayurvedic Case Study of Spinal Cord Injury. J Spinal Diseases and Research

Doi: <http://dx.doi.org/10.31579/jsdr.2018/003>.

Copyright : © 2018 Emanuele James. This is an open-access article distributed under the terms of The Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Spinal cord injury (SCI) is associated with consequences such as full loss of spinal movements, incontinence of bladder functions, bed sores, etc. There is no satisfactory treatment available in biomedicine with only limited treatments only for enhancement of spinal cord function. These treatments have many limitations. Ayurvedic drugs and *Pancakarma* procedures have been in use to treat such conditions since a long time. We present a case of SCI with lesion at C4 level which was treated for 2 months with an Ayurvedic combined intervention. The combined treatment plan involved Ayurvedic oral medications (*Brhadvātacintāmaṇi rasa* - 125 mg, *Ardhanāgavātāri rasa* - 125 mg, *Daśamūla kvātha* - 40 ml, *Aśvagandhācūrṇa* [powder of *Withania somnifera* DUNAL] - 3 g, *Amṛtā* [*Tinospora cordifolia* WILLD] - 500 mg, *Muktāsukti piṣṭi* - 500 mg and *Trayodaśāṅga guggulu* - 500 mg) twice daily. Combined procedures involved such as *śālīṣaṣṭika piṅḍasvedana* (sudation with medicated cooked bolus of rice) every day for 2 months and *Mātrā basti* (enema) for first 15 days with *Aśvagandhā* oil. From 16th day, *Mustādi yāpana basti* (MYB, enema with medicated milk) was given for 16 days.

Keywords: *Matra basti*, *Mustādi yāpana basti*, patient centered outcome, quadriplegia, spinal cord injury, stem cells therapy.

Introduction

The prevalence of acute traumatic spinal cord injury (SCI) is estimated to be 236 per million in India.[1] Much of the morbidity associated with SCI occurs due to the limited intrinsic ability of the spinal cord to recover following transaction or contusion. The pathophysiology of SCI is considered biphasic in nature. Primary injury results from mechanical force injuring the spinal cord. Secondary injury occurs via the subsequent edema, ischemia, inflammation, cytokine production, free radical damage, glial scar formation, apoptosis, and necrosis.[2] The major hurdles in complete recovery from SCI are mostly due to the up-regulation of certain inflammatory molecules after injury that results in gliosis. Various surgical procedures, stem cell implantation therapy and other medical interventions are employed in modern medicine but with much limitation. Ayurvedic intervention may impart complete recovery from SCI by treating secondary injury. This case report is of a patient with SCI with C4 level lesion having achieved substantial recovery with Ayurvedic intervention.

Case Report

On February 11, 2014 a 70-year-old patient came for consultation in the *Pancakarma* O.P.D. of National Institute of Ayurveda, Jaipur, India. He was admitted and examined in the I.P.D. of the Institute. Upon examination, it was revealed that he was unable to move either of the upper or lower limbs. He was fully conscious and awake except that he was not able to move any part of his body. His spine was stiff and hence he was unable to turn on the bed or to sit even with support. Patient had autonomic dysfunction and was neither able to feel nor control the urge for micturition and defecation [Table 1]. The patient had a history of trauma on head due to collapse of a wall on him in the evening of June 26, 2013. After the accident, he remained unconscious for about 2.5 h and regained consciousness on the way to hospital. The accident had led to multiple wounds on his head, face, and right thigh. After waking from unconsciousness, he had reported severe headache and inability to move all four limbs. He was admitted to Intensive Care Unit (I.C.U.) for 3 days where suturing of wound had been done along with administration of other supportive medication.

In I.C.U., patient had incontinence of urine and stools. On June 28, 2013 magnetic resonance imaging of cervical spine was done. This revealed posterior and bilateral posterolateral disc osteophyte complex was found at C3/C4 level indenting anterior thecal sac. Focal cord signals, hyperintense on T2W and isointense on T1W sequence, at C3 and C4 was suggestive of cord edema. Posterior and bilateral posterolateral disc osteophyte complex was found at C5/C6 and C6/C7 level indenting anterior thecal sac. A noncontrast computed tomography (CT) scan of the head was performed on July 1, 2013, which revealed no significant abnormality. On July 9, 2013 a CT scan of C1 vertebra to C7 vertebra was done which revealed severe cervical spondylosis with multiple level prolapsed intra vertebral discs. Failing to get any response from the treatment, the patient consulted in O.P.D. of Neurology Department of G.B. Pant Hospital, New Delhi on July 20, 2013. Upon a detailed clinical neurological examination done this time, he was diagnosed with quadriparesis and SCI at C4 level. Patient and the relatives were explained about the unavailability of satisfactory treatment. A CT scan of the cervical spine was advised and it revealed (July 25, 2013) significant changes of cervical spondylosis with endplate irregularity and decrease in intervertebral discs space at C3-4, C4-5, and C5-6 level. The recommended physiotherapy was continued for about 5 months following the injury, but there was no improvement in the clinical condition. After this period, he was treated in an Ayurvedic hospital in Delhi in the hope of better treatment. Ayurvedic diagnosis was *āghātaja sarvāṅgaroga* (neurological problems due to trauma).[3,4] The patient was prescribed *śirodhārā* (continuous pouring of medicated liquid on head) with *dhānvantaram* oil and whole body massage with this oil.[5] Patient had taken this regimen for 7 days in January 2014. There was no clinical improvement during this period, but the patient had the feeling of well-being. Then the patient discontinued treatment as it was costly. He remained away from direct medical supervision for next 1 month. After this, the patient came to our institute in the hope of better Ayurvedic management. He was diagnosed for *āghātaja sarvāṅgaroga* in our Institute and was treated on the line .

Discussion

As there is no specific line of treatment for *sarvāṅgaroga*, general line of treatment for *vātavayādhī* was adopted to treat this condition. Due to the spastic nature of the disease SPS (sudation with medicated cooked bolus of rice) and *Mātrā basti* (MB) (enema using medicated oil) with *Aśvagandhā* oil was given for first 15 days.[6] In addition to these local therapies, the patient was also recommended oral Ayurvedic drug regimen as described earlier twice a day for 2 months. After 15 days of the therapy, little improvement was observed in neurological deficits. Most remarkably, the patient had gained control on the urge for micturition and defecation. Initially, the patient was not able to retain MB for more than 1 min but after 7 days, he was able to retain MB for about 30 min. After 15 days of therapy, to maximize the therapeutic effects *Panchakarma* procedure was changed to MYB (enema with medicated milk) and SPS.

References

- Hagen EM, Rekand T, Gilhus NE, Grønning M. Traumatic spinal cord injuries – Incidence, mechanisms and course. *Tidsskr Nor Laegeforen*. 2012;132:831–837.
- Renault-Mihara F, Okada S, Shibata S, Nakamura M, Toyama Y, Okano H. Spinal cord injury: Emerging beneficial role of reactive astrocytes' migration. *Int J Biochem Cell Biol*. 2008;40:1649–53.
- Pandey GS, Sastri K. Sutrasthan 20/11. Vol. 1. Varanasi: Chaukumba Sanskrit Sansthan; 2006. Caraka Samhita, Vidyotini Hindi commentary; p. 399.
- Nishteswar K, Vidyanath R. 3rd ed. Varanasi: Chowkhamba Sanskrit Series Office; 2011. Sahasrayogam; p. 109.
- Itzkovich M, Gelernter I, Biering-Sorensen F, Weeks C, Laramee MT, Craven BC, et al. The Spinal Cord Independence Measure (SCIM) version III: Reliability and validity in a multi-center international study. *Disabil Rehabil*. 2007;29:1926–33.
- Pandey GS, Sastri K. Sutrasthan 13/23-25. Vol. 1. Varanasi: Chaukumba Sanskrit Sansthan; 2006. Caraka Samhita, Vidyotini Hindi commentary; p. 262.
- Yudkoff M, Daikhin Y, Melø TM, Nissim I, Sonnewald U, Nissim I. The ketogenic diet and brain metabolism of amino acids: Relationship to the anticonvulsant effect. *Annu Rev Nutr*. 2007;27:415–30.
- Guzmán M, Blázquez C. Ketone body synthesis in the brain: Possible neuroprotective effects. *Prostaglandins Leukot Essent Fatty Acids*. 2004;287–92.
- Halestrap AP, Price NT. The proton-linked monocarboxylate transporter (MCT) family: Structure, function and regulation. *Biochem J*. 1999;343:281–99.
- Enerson BE, Drewes LR. Molecular features, regulation, and function of monocarboxylate transporters: Implications for drug delivery. *J Pharm Sci*. 2003;92:1531–44.
- Lutas A, Yellen G. The ketogenic diet: Metabolic influences on brain excitability and epilepsy. *Trends Neurosci*. 2013;36:32–40.
- Ormond DR, Shannon C, Oppenheim J, Zeman R, Das K, Murali R, et al. Stem cell therapy and curcumin synergistically enhance recovery from spinal cord injury. *PLoS One*. 2014;9:e88916.
- Pandey GS, Sastri K. Siddhisthan 12/15. Vol. 2. Varanasi: Chaukumba Sanskrit Sansthana; 2006. Caraka Samhita, Vidyotini Hindi commentary; p. 1096.
- Pandey GS, Sastri K. Sutrasthan 28/27. Vol. 1. Varanasi: Chaukumba Sanskrit Sansthana; 2006. Caraka Samhita, Vidyotini Hindi commentary; p. 573.
- Pandey GS, Sastri K. Siddhisthan 4/54. Vol. 2. Varanasi: Chaukumba Sanskrit Sansthana; 2006. Caraka Samhita, Vidyotini Hindi commentary; p. 1013.
- Mishra S. Ch. 26. 141-144. Varanasi: Chaukhamba Surbharati Prakashan; 2007. Bhaisajyaratnavali. Sidhiprada Hindi commentary; pp. 530–1.