



**CASE STUDY**

**Miraculous Result of Panchkarma & Ayurveda in Traumatic Spinal Injury: A Case Study**

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**ABSTRACT**

Spinal injuries cause damage to nerve roots that carry signals to and from the brain. On basis its classification and severity, this type of hurtful injury could also damage the gray matter in the central part of the cord, causing segmental losses of interneuron's and motor neurons or in other words it leads to paralysis. Spinal cord injury (SCI) is associated with most terrible outcomes and requires a prolonged rehabilitation. Ayurveda methods are often utilized to treat such patients. A case of SCI was followed up for 6 months upon an Ayurvedic composite intervention and subsequently reported. The composite treatment plan involved Ayurvedic oral medications as well as Panchakarma procedures. A substantial clinical and patient centered outcome improvement in existing neurological deficits and quality of life was observed after 6 months of the Ayurvedic management given to this patient.

**KEYWORDS**

Hemiplegia, Rehabilitation, Spinal Cord Injury, Panchkarma

**INTRODUCTION**

Spinal cord injury is damage to the spinal cord that results in a loss of functions such as mobility or feeling, usually caused by trauma or disease. It also leads to sensory and autonomic deficits affecting the bladder and bowel regulation. As prolonged survival is the rule in most SCI, rehabilitation has been increasingly recognized as an important measure in overall management of such conditions. The primary goal of rehabilitation here is prevention of secondary complications, restoration of physical functioning to the maximum, and adopting

appropriate measures to utilize the existing functions to make the activities of daily living (ADL) less dependent. Rehabilitation after SCI usually requires a multidisciplinary approach involving a physician, a physiotherapist, an occupational therapist, a psychiatrist, a social worker, and nursing personnel specialized in SCI care.<sup>1,2</sup> Keeping in mind, the limitations of current rehabilitative measures in improving the net outcomes in SCI, a practice-based evidence (PBE) research has been stressed to underscore the practical measures employed in various settings, which are found associated with improved net outcomes. Spinal cord injury rehabilitation (SCIR) project and spinal cord Injury rehabilitation evidence (SCIRE) are examples of how a PBE research can

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successfully be employed to identify the rehabilitation interventions most strongly associated with positive outcomes.<sup>3,4</sup> Ayurvedic hospitals and particularly the Panchkarma units therein are found utilizing some indigenous rehabilitative techniques to intervene in various neurological, muscular, and locomotory deficits. Common conditions where such interventions recommended are neurological deficits caused by cerebrovascular accidents, cerebral atrophy, prolapsed intervertebral disc, and SCIs.

The rehabilitative techniques adopted in such conditions are composed of various classical heat and oil treatments done externally, oil and herbal decoction treatments done internally in addition to oral therapies. Neurological, rheumatologic, and degenerative joint disease together form a substantial sum of total patients visiting an Ayurvedic hospital in India.<sup>5</sup> An overall satisfaction among patients receiving such therapies has been observed in earlier studies.<sup>6</sup>

Some pilot studies, case reports, and case series have also reported the benefits of individual procedures or oral medications as interventions in such conditions. Upon Pub Med search, nevertheless, we did not come across any report where Ayurvedic intervention has been tried in a patient of SCI. Here we report a patient of SCI where an Ayurvedic comprehensive management composed of a few rehabilitative procedures and oral Ayurvedic medications has resulted in improvements identifiable through a SCI outcome measure like modified Barthel index (MBI).<sup>7</sup>

The observations noted on various outcome measures related to SCI have further been verified through clinical examination and were endorsed during patient and care giver's interviews.

We presume that the observations as are reported in this case, upon their further substantiation may prove crucial despite of their empirical ability of generating improvements through patient-based outcome observation as a PBE substantiating to the management of SCI.

## CASE REPORT

A 19-year-old previously healthy male suffered from fatal accidental injury when he was going to his college by an auto Rickshaw (April 10, 2012). Suddenly a truck came and crushed auto. He remained unconscious for about 1.5 hours following the collision and regained consciousness subsequently. He was taken to a govt hospital in Delhi and attended by physician and was taken to ICU after getting awake he reported severe injury on back and inability to move the lower limbs. After this (April 14, 2012). A computed tomography (CT) scan and MRI of dorsal and lumbar spine was performed, which revealed that there is severe damaged dorsal spine D10, D11 & D12. A disc bulge was observed at D11-12 level producing mild extradural compression over ventral aspect of thecal sack with mild compromise of bilaterallateral nerves. The patient was consulted with a neurosurgeon. Upon a detailed clinical neurological examination done this time, he was noted for a quadriplegia with upper motor neuron (UMN) involvement more on the right side comparing to the left side. He was advised for laminectomy operation for correction the crushed vertebrae. He was operated but he was not recovered from his problem of no sensation of both lower limbs and no control of bowel and bladder. Failing to get any response from the treatment, and back care along with supportive therapy as may be recommended in the case from the point of view of conventional medicine. The conventional therapy continued for about 3 months following the injury, however, remained unrewarding. Observing this, he was further consulted with another neurosurgeon and continued with subsequently recommended therapy for another month. Failing to get any response he stopped taking the medicine. The patient remained in same medical supervision.

### Ayurvedic Approach

On October 26, 2012 the patient came to Ch. Brahm prakash Ayurved Charak Sansthan Khera Dabar N.D. 73 in Panchkarma OPD and consulted in department of Panchkarma. On the

basis of examination and previous reports, it was revealed that he was unable to move of lower limbs and no control of bowl and bladder. He was fully conscious and awake except that he was not able to move his lower part of his body. He has also no control of bowl and bladder. His spine was stiff and so he was unable to turn on the bed or to sit even with support. The patient was not able to feel the urge for micturation and defecation.

Considering the consistent request of the patient for Ayurvedic treatment in his case and considering his lower middle class socio-economic status rendering him unable to opt for any other conventional therapy, which might have been offered in his case, the patient was taken up for Ayurvedic therapy. As there were no previous records of treating such patients of SCI with Ayurvedic management, the patient and the relatives were explained about the experimental nature of the therapy and the eventual uncertainty of the outcomes.

Considering the spastic condition of the whole body including spine and considering trauma to the cervical spine and subsequent features pathognomonic to vata nanatmaja disease, the patient was recommended for a set of Ayurvedic therapies comprising of Sarvanga Sneha Dhara. In addition to these local therapies, the patient was also recommended a few oral Ayurvedic drugs aiming at the control of vata in such clinical conditions [Table 2]. The whole treatment package was provided to the patient in the indoor ward in Ch. Brahm Prakash Ayurved Charak Sansthan New Delhi. 73. The patient was kept under continuous observation and was followed up on periodic basis. After one month of the therapy, little improvement was observed in neurological deficits. Most remarkably the patient was able to raise his head without complaint of giddiness as was noticed prior to the Ayurvedic treatment. After one month of therapy, to maximize the therapeutic effects of the whole therapy the prescription was added with a periodic Kaala Vasti (KV) with mahanarayana oil for 16 days and [Table 1].

The same treatment continued for another 2 months and the patient was followed up after the completion of the therapy. Upon a subsequent follow-up after 6 months of Ayurvedic therapy, the patient was found to have substantial recovery to his neurological deficits. He was able to turn on the bed unaided, able to sit unaided for 15-20 minutes and was able to walk with major support. He was able to move all the joints. By this time he was also able to stay out on wheel chair carried by some caregiver. A 10-item MBI score, which was reported to be 4 before the start of Ayurvedic intervention, was improved to 10 at the end of 3 month Ayurvedic therapy. The 10-item MBI is intended to establish the degree of independence of the patient from any help, however, minor and for whatever purpose. This is an index that records what the patient does rather than what the patient can do.

It is important to note here that a 20 score at MBI reflects the independence of patient in cases of SCI. An interview with patient and his care givers reflected their satisfaction with the outcome achieved in 6 months of therapy with an expectation to obtain more if the therapy is further continued.

Ayurvedic therapy was started with Sarvanga Sneha Dhara for 60 minutes. Subsequently, Nadi Swedana for 10 minutes was done with Dashamula & Nirgundi quath. In the following month Kaala Basti was added to the treatment in a schedule of 16 vastis comprised of one anuvasana followed by six anuvasana and six niruha vasti and finally followed by three anuvasana vasti. Anuvasana vasti was given after meal and composed of saindhava salt 5 g, honey 10 g, mahanarayan oil 30 ml, and dashamula quath 30 ml. Niruha vasti was given empty stomach and was composed of saidhava salt 10 g, honey 10 g, mahanarayana oil 30 ml and dashmula quath 150 ml. The vasti components were mixed in order and given as mentioned in the classical texts of Ayurveda. No other specific therapy either biomedical or physiotherapy was instituted during the trial period.

## RESULTS

Table 1: Ayurveda management: treatment given to a case of spinal cord injury as follows

Oral management	Panchkarma management
<p><i>Vrihat vata chintamani ras. 125 mg twice a day with honey</i></p> <p><i>Aswagandha powder 3 gm twice a day with milk.</i></p> <p><i>Navjeevan ras 250 mg twice a day with milk.</i></p> <p><i>Dashmoola kwatha (decoction) :- 40 ml thrice a day</i></p>	<ol style="list-style-type: none"> <li><i>Sarvanga Dhara.:- Balaaswagandha Oil and Narayana Oil.</i></li> <li><i>Nadi Swedana with dashmoola and Nirgundi Kwath.</i></li> <li><i>Kala Basti :- 16 Basti With Erandamooladi Niruha And Narayana Taila</i></li> </ol>

Table 2: Neurological finding in a case of SCI before and after the Ayurvedic management

	Sign/Symptoms	Before Treatment	After Treatment
1.	Ability to turn on the bed	Absent	Present
2.	Ability to sit with support	Absent	Present
3.	Ability to stand with support	Absent	Present
4.	Muscle coordination	Absent	Improved partially
5.	Muscle tone left lower limb	Spastic	Improved partially
6.	Muscle tone right lower limb	Spastic	Improved partially
7.	Bowl & bladder activity	No control	Partially control

## DISCUSSION

SCI have been one among the most devastating trauma man can suffer. The worst victims of SCI are those suffering with quadriplegia associated with autonomic dysfunction. As long-term survival is the rule in most cases of SCI and as the victims of SCI are prominently the young people in their most productive age, the personal and social impacts of such trauma are extremely deleterious. Immediate surgical decompression is often been recommended as the first measure to minimize the neurological damage caused by vertebral fractures and the results are not found very satisfactory if this decompression is delayed. A substantially high cost of surgical approach in SCI nevertheless is a major limitation in frequent utilization of this

Option in every SCI case. Absence of definitive conservative therapy to intervene and high cost associated with surgical approaches makes rehabilitative approach crucial for SCI sufferers in making them less dependent and improving their performance level of primary ADL. Any neurological improvement following the immediate or delayed conservative intervention after the spinal cord trauma is also something which is being desperately looked in such conditions. Ayurvedic treatment as an advent of orient with its global outreach offers substantial help to deal with such situations through its own indigenous treatment models. Various oil and ghrithatherapies of Ayurveda have been able to give substantial improvement in many intractable neurological conditions as are

reported in various single case reports and series published from time to time.<sup>8,9</sup> This case of SCI presented with severe neurological deficits and a MBI score of 4 has demonstrated the clinical and patient centered outcome improvements after 6 months of a comprehensive Ayurvedic therapy. MBI scoring is used as a dependable index to know about the qualitative improvements in SCI patient's life by observing the level of independence achieved after the therapy. A 10 item MBI has a range of scores 0-20 where 0 denotes a complete dependence and 20 denotes a complete independence. Any shift in the net score favoring toward the higher scores is indicative of decreasing dependence and increasing independence as it was observed in this case. Although the treatment was not able to bring a complete independence of functions in the case it certainly had reduced the level of dependence as was observable with the improved MBI score. This case offers two important bearings to current medical practice pertaining to SCI. First it offers a novel approach of managing the neurological deficits of patients suffering with SCI once it is stabilized. . The case presented here has been treated with a full and composite management plan as per the convenience of Ayurveda. As the treatment was able to make improvements in existing conditions, this approach should be taken into consideration while making any further trial to treat similar or new conditions with the help of Ayurveda.

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