

Letter to the Editor

Non-operative management is superior to surgical stabilization in spine injury patients with complete neurological deficits: Some additional perspectives

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Dear Sir,

We read “Non-operative management is superior to surgical stabilization in spine injury patients with complete neurological deficits: A perspective study from a developing world country, Pakistan” by Shamim *et al.*^[9] with interest. Their work is from one of the largest and well-established and respected private health care hospitals in Pakistan. Their observations and recommendations about non-surgical management of traumatic spinal cord injuries (SCIs) in the context of a developing country are very valid. We would, however, like to add few salient comments.

In developing countries (including Pakistan), healthcare is more focused on curative medicine rather than preventive medicine. Unfortunately, SCI in the majority of cases in Pakistan results in neurological deficits that cannot be reversed by any surgical or pharmacological means at present. Prevention of SCI is, therefore, an important strategy that can reduce the number of traumatic SCI (secondary to motor vehicle accidents, falls, sports events, etc.) or prevent secondary injury after SCI occurs.

The pre-hospital trauma care in Pakistan has improved in the last one decade.^[1,10] Still there are deficient areas when it comes to initial management of SCI at the trauma site and evacuation to a medical facility.^[8] We noted that one of the reasons of having a greater prevalence of paraplegia (instead of the global trend of tetraplegia) at presentation to the emergency departments is the poor evacuation and management techniques in the pre-hospital phase, such that persons with tetraplegia do not survive.^[7]

In Pakistan, most of the patients with SCI are from lower socioeconomic groups with low educational and literacy levels.^[8] Many cannot understand the true nature of a permanent disability like SCI and often opt for surgical management in the hope that surgery will repair the injured cord. In our experience and interaction with SCI patients and their families over the last 6 years, we have found that most of these patients were not counseled about the difference between surgical stabilization of the bony spinal column versus their perceived idea of the injured spinal cord being surgically repaired. Moreover, many patients are operated weeks after their initial injury when the bony callous formation is already in progress and there is little hope left for neurological recovery.

The reported benefits of spinal surgery are in cases operated within 72 hours.^[3,5] This is not the case in Pakistan and most of the developing countries where patients may present weeks after sustaining the injury.^[6] In these circumstances, spinal instrumentation should only be offered if it can be of any benefit to the patient.

In most cases, the cost of the surgical implant has to

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be borne by the patient/patient's family. This leaves very little finances for the postoperative spinal injury rehabilitation which is the only intervention known to improve the long-term functional outcomes and improve Quality of Life in these patients. We have had several patients consulting at our institute for SCI rehabilitation who never underwent rehabilitation due to the lack of funds. Similar findings have been recently been reported from Nigeria where non-surgical management is more cost-effective than surgical interventions.^[4]

We propose the following as a food for thought for the healthcare policy makers and healthcare professionals involved in the care of SCI in Pakistan:

1. A national trauma/SCI registry should be established to accurately determine the demographics and actual burden of this long-term disability in the country.
2. "An ounce of prevention is worth more than a pound of cure" is the approach needed to reduce the incidence of traumatic SCI in Pakistan. Road safety laws should be enforced and the work conditions should be improved.
3. The pre-hospital evacuation protocols should be revised to specifically address the immobilization and transport of a suspected case of SCI, so that further neurological damage during transport can be prevented.^[2]
4. Patient education and counseling is of paramount importance and should not be neglected or omitted in any case. Explaining the nature of the permanent disability should be completed before undertaking expensive spinal surgery without the prospects of improving neurological functions in a neurological complete injury.
5. The facilities of spinal cord injury rehabilitation in the country are very inadequate.^[7] The concept of a true interdisciplinary rehabilitation team is largely missing and SCI rehabilitation is being performed at some places without the active involvement and supervision of a physiatrist who specializes in SCI medicine. There is a need to educate the public as well as the healthcare professionals about the need and

importance of an interdisciplinary SCI rehabilitation team to provide a comprehensive continuum of care to the patient.

6. In the absence of large, good-quality studies proving that spinal surgery is better than the conservative management, especially if being performed weeks after injury, all patients with traumatic complete SCI should initially be considered for non-operative management.

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Commentary

We thank the authors for their letter to the editor, addressing our paper. They have indeed tried to highlight a lot of issues in Pakistan's healthcare system, and although we do appreciate their comments, we would like to point out that systems do exist in the country that address almost all the issues that they have raised, although the application of these systems leaves much to be desired. Even though limitations exceed requirements, efforts are continuous and unrelenting. Injuries in particular received a lot of attention in the last few years

when a well-reputed practicing Professor of Neurosurgery was appointed the Federal Director General of Health. His initiatives included a comprehensive road traffic injury surveillance project in Karachi, the largest city of Pakistan and one of the largest, most populated in the world, with an estimated population exceeding 17 million.^[2] The project has special plans and provisions for road traffic injury research, prevention, as well as education and capacity building. Similar programs do exist for other type of injuries as well.

Studies from the United States estimate that management costs of SCI per patient often exceed 1 million US dollars, making SCI the second most expensive condition to treat and third among the conditions requiring the longest length of stay in hospitals in the United States.^[1,3] It is unfortunate but has to be realized that a country working with limited resources, losing hundreds of children ever in a single day due to diarrhea and malnutrition, struggling to keep its healthcare indicators (such as maternal mortality rate) within acceptable range, cannot be expected to consider costly SCI treatment a healthcare priority.

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