The Impact of Interdisciplinary Spinal Cord Injury Rehabilitation on Improving Neurological Outcomes

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We have read the article “Timing of surgery in thoracolumbar spine injury: Impact on neurological outcome” by Qadir at.al1 with interest. It is an important study addressing several key issues in the early surgical management of acute thoracolumbar Spinal Cord injury (SCI) management and its impact on the neurological recovery at 12 months.

Based on our experience of providing rehabilitation services to SCI patients in a variety of settings across the country, we would like to offer some comments and suggestions regarding the role of early and coordinated multi-disciplinary SCI rehabilitation. There is strong evidence that SCI rehabilitation both in the acute and long-term phase can enhance recovery, reduce complications, and improve community reintegration.2 An excellent resource summarizing this evidence is The Spinal Cord Injury Research Evidence (SCIRE) project.3 However, in developing countries SCI rehabilitation is either non-existent, poorly developed or not accessible to most of the patients with SCI in need of these services.4,5 This can have adverse effects on the patients with SCI even if they are provided early spinal surgery. This was highlighted during the Oct 2005 earthquake in Pakistan which resulted in hundreds of acute SCI patients. Many of these patients underwent spinal surgery even though most of them had a complete injury. Due to the lack of SCI rehabilitation services at that time many of them could not be managed in specialized SCI rehabilitation centers.6 Those who were under rehabilitation care had better outcomes and reduced complications at follow-up.7,8

Unfortunately, after 15 years things have not changed much for patients with SCI in Pakistan. Most of the patients with traumatic SCI in Pakistan are operated upon by the spinal and neurosurgeons and discharged to home without any formal rehabilitation consultation or a long-term plan. Rehabilitation is confused with physiotherapy and some form of exercises alone.9 Physicians, Surgeons and the public are not clear about the concept of a multi-disciplinary rehabilitation. As a result, surgeons, patients, and the caregivers consider physiotherapy as the only form of SCI rehabilitation. This results in neglect of other important aspects like post SCI depression and anxiety, bladder and bowel management, pharmacological management of spasticity and vocational rehabilitation which cannot be managed by physical therapy alone.

SCI rehabilitation is a team approach using the expertise of many professionals formally trained in their respective fields. These include rehabilitation medicine physician (physiatrists), physical therapist, occupational therapist, clinical psychologist, rehabilitation nurse, orthotist, and vocational counselor. It is important that an early SCI rehabilitation should be offered to all patients with SCI using a multi-disciplinary team approach as outlines above. This is especially important as most of the patients with traumatic SCI are young males who in developing countries like Pakistan are the main bread earners for the family. There is a need to reintegrate these young men back into the society as useful earning members. Some SCI patients in Pakistan are unable to enroll in SCI rehabilitation because they exhaust all their finances on the surgical stabilization.5

Therefore, it is important to consider if surgery is really needed in patients with a complete SCI especially if they have few finances. Shamim and colleagues in a 2011 study of 54 SCI patients from a large hospital in Karachi, Pakistan proposed that in SCI with complete injury non-operative management is superior to surgical stabilization.9 They recommended that patients with complete SCI should be managed non-operatively with a provision of surgery only if their rehabilitation is impeded due to pain or deformity.

Another challenge with the surgical management of traumatic SCI in Pakistan is the lack of understanding of the

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possible outcomes by the patients and the families. Due to the poor educational status of many patients, they are unable to comprehend the nature and recovery potential of a permanent disability like SCI and often opt for surgical management in the hope that surgery will repair the injured cord.  

We would like to suggest the following considering the current healthcare system in Pakistan.

While good acute management of SCI is important, prevention of SCI is 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.

There is need to establish a national trauma database or SCI database to accurately determine the burden of trauma and SCI in the country. This can help in formulation of appropriate health policies and allocate resources where needed.

Awareness regarding the role of a multi-disciplinary SCI rehabilitation should be created among the surgeons, SCI patients and the public. This is primarily the responsibility of the rehabilitation professionals working in Pakistan.

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 complete SCI.  

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