

CORRESPONDENCE

Why the urgency to operate on people with acute complete traumatic tetraplegia?

Spinal Cord Series and Cases (2016) 2, 16018; doi:10.1038/scsandc.2016.18; published online 21 July 2016

In 2013, The International Spinal Cord Society and the World Health Organization published *International Perspectives on Spinal Cord Injury*, with a very clear recommendation for dealing with acute spinal cord injury:

'Many factors should be taken into consideration to determine the most appropriate management approach, including level of injury, type of fracture, degree of instability, presence of neural compression, impact of other injuries, surgical timing, availability of resources such as expertise and appropriate medical and surgical facilities, and benefits and risks. In all cases, people with SCI and their family members should be given an informed choice between conservative and surgical management.'¹

Our colleagues who contributed to writing the above section in this valuable resource are some of the most respected medical professionals in the field. Yet, are acute care clinicians taking this on board?

Many now believe that every person suffering a complete traumatic spinal cord injury (SCI) needs to undergo surgical decompression and stabilisation within 24 h of injury.² The belief that this intervention gives the person the best chance of neurological recovery is unproven and may never be due to the multiple variables. A recent systematic review and meta-analysis on the effects of the timing of spinal surgery after all traumatic spinal cord injury concluded that, despite the fact that 'early' spinal surgery was significantly associated with improved neurological and length of stay outcomes, the evidence supporting 'early' spinal surgery after traumatic SCI lacks robustness as a result of different sources of heterogeneity within and between original studies.³

Traction and conservative management seems to be no longer considered an appropriate intervention within Australia. In the past, surgery was only indicated when there was early deterioration or when the lesion was still not stable after a minimum 6 weeks of bed rest. Engrit beds are gathering dust, intensive care length of stay is costly and SCI rehabilitation staff have become de-skilled in acute management.

So my questions to the acute care clinicians are many:

- i. Where are the studies that compare conservative management to early surgical management to justify blind adoption of the surgical approach that most centres now follow?
- ii. If acute spinal surgery is being carried out, is the patient in the hands of a skilled spinal surgeon and post-operative care?
- iii. Who is completing the full neurological assessment of the patient on admission and are they following this assessment with a post-surgical assessment?
- iv. Who is providing the patient and their family with the options of acute management?
- v. Is the patient made aware that the surgery will not repair the spinal cord but will decompress and stabilise the spinal cord

and canal. This may also be achieved by traction and immobilisation.

- vi. Is there a different thought process when it is clear the patient has incomplete neurology?
- vii. Can early surgical intervention be justified, for complete traumatic tetraplegic injuries, when it is being superimposed upon an already devastating injury? Is a 27% risk of major post-operative complications² concerning?

In a recent retrospective review in a single centre in Australia of the management of acute admissions for people with traumatic complete tetraplegia over a 5-year period, 92% were surgically managed and the average length of stay in Intensive Care, excluding the ventilator dependent group, was 26 days.⁴ Intensive care was required post-operatively as a result of intubation. Respiratory complications, difficulty with weaning, wound infection and breakdown and problems with ileus caused this delay. Overall hospital length of stay was no different when compared to similar group who were managed conservatively in the same centre several years before. In December 2015, at the Asia Spinal Cord Network meeting in Kathmandu, a paper presented by Dr Sayeed, a Neurosurgeon from Bangladesh, described the successful outcomes of ASIA A SCIs, treated conservatively. The reason why these patients were not surgically stabilised was that they could not afford the surgery. This seems to be significant when, for once, people from the lower socio/economic group benefitted from their impecuniosity.

This letter and topic have not been previously published and have not been submitted for publication elsewhere while under consideration.

COMPETING INTERESTS

The author declares no conflict of interest.

Vernon Hill

*Emeritus Rehabilitation Physician, Princess Alexandra Hospital,
Woolloongabba, Queensland, Australia
E-mail: v2hill@tpg.com.au*

REFERENCES

- 1 Bickenbach J, Officer A, Shakespeare T, von Groote P. *International Perspectives on Spinal Cord Injury: Summary*. WHO/ISCOS publication, Switzerland, 2013, Page vii.
- 2 Fehlings MG, Vaccaro A, Wilson JR, Singh A, Cadotte DW, Harrop JS *et al*. Early versus delayed decompression for traumatic cervical spinal cord injury: results of the surgical timing in acute spinal cord injury study (STASCIS). *PLoS ONE* 2012; **7**: e32037.
- 3 van Middendorp JJ, Hosman AJ, Doi SA. The effects of the timing of spinal surgery after traumatic spinal cord injury: a systematic review and meta-analysis. *J Neurotrauma* 2013; **30**: 1781–1794.
- 4 Hill V, Wadsworth B. *Oral presentation; A Retrospective Review of Methods of Management of Acute Traumatic ASIA A Tetraplegia*. ANZSCOS, Sydney, NSW, Australia, 2013.