

LETTER TO THE EDITOR

Priapism in acute spinal cord injury

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The review article by Todd¹ raises questions about scientific standards in medical journals and what constitutes a conflict of interest. Todd notes that the incidence of priapism after spinal cord injury (SCI) in males cannot be determined from the published medical literature. He seeks to use anecdotal evidence from judicial hanging in support of his assertion that (a) priapism is always associated with a complete motor/sensory paraplegia and (b) it occurs only at the moment SCI becomes complete, and not following a delay. This analysis then leads him to the conclusion that if priapism is not identified at presentation but develops subsequently then, 'on a balance of probabilities ... the overwhelmingly most likely cause of secondary SCI is excessive movement at the level of an unstable fracture', that is, it is evidence that clinical negligence has occurred.

Although a C2 pedicular fracture is known commonly as a 'hangman's fracture' Todd notes that fracture of the cervical spine is in fact uncommon following judicial hanging. However, he fails to draw the obvious conclusion from this; namely, so too is SCI. Rupture of the brain stem is said to be the most common neurological injury.² Therefore, the first difficulty with his analysis is that judicial hanging is not a reliable mechanism from which to draw conclusions about SCI. A more fundamental flaw is that, for high-flow tumescence to occur, it is self-evident that there must be an intact circulation. Although the heart may continue to beat for around 20 min from the moment of execution, this mechanism can result in priapism only if it occurs during that time frame. It does not exclude the possibility that priapism might develop later in other types of SCI that do not result in early circulatory arrest.

Of even greater concern, Todd's review is not an accurate account of the literature that he refers to. In particular the article by Gordon *et al.*,³ which is the only clinical series published in the medical literature, reports that one of the five cases on which they had sufficient data (there were six cases in total series) developed priapism in association with an incomplete SCI. Todd has misquoted this article, and his assertion that priapism can occur only with a complete lesion is manifestly incorrect. Furthermore, the same authors report that priapism may recur some hours after the primary detumescence. Therefore, the second cornerstone of his hypothesis, that it develops

only immediately after an acute SCI, is also false. It is also my experience that priapism can occur with an incomplete spinal cord lesion. Indeed, there is no logical reason why this should not be so when it is known to occur reversibly in other neurological conditions.⁴

Curiously for a scientific review, Todd has not applied the traditional statistical standard of proof ($P < 0.05$). Instead, he relies upon the standard applied by The Civil Justice System in England and Wales, namely 'a balance of probabilities' (that is, $P < 0.5$). Not only is he wrong to draw the conclusions that he does from the evidence he presents, but also is this really an acceptable end point for a scientific article?

The only conclusion drawn from this review is that medical malpractice has probably occurred if priapism is discovered at any time beyond the primary assessment. It must surely be a matter of serious concern to all those who manage SCI that this article may be cited in legal proceedings, and that clinicians will be accused of clinical negligence on the basis of a fundamentally flawed thesis. Noting the declaration that appears at the end of this article, were Todd intending to use it for medicolegal purposes would that constitute a conflict of interest?

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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1 Todd NV. Priapism in acute spinal cord injury. *Spinal Cord* 2011; **49**: 1033–1035.

2 Pallis C. ABC of brain stem death. From brain death to brain stem death. *Br Med J* 1982; **285**: 1487–1490.

3 Gordon S A, Stage K H, Tansey K E, Lotan Y. Conservative management of priapism in acute spinal cord injury. *Urology* 2005; **65**: 1195–1197.

4 Maurice-Williams RS, Marsh HT. Priapism as a feature of claudication of the cauda equina. *Surg Neurol* 1985; **23**: 626–628.