Spinal Cord (2010) 48, 716

www.nature.com/sc

LETTER TO THE EDITOR

Physical therapy versus heparin for prevention of deep venous thrombosis

Spinal Cord (2010) **48**, 716; doi:10.1038/sc.2010.3; published online 2 February 2010

Agarwal and Mathur[1] have shown that administration of heparin fails to improve on the low incidence of clinically detectable deep venous thrombosis (DVT) in their acute spinal cord injury (SCI) cohort. They suggest that physical therapy, genetics or life style may have preempted the need for heparin. I write to suggest that physical therapy in the form of range of motion (ROM) to the paralyzed extremities is the explanation. In the cited Todd study,[2] in which the prevalence of DVT was 100%, the frequency of ROM was nil to no more than once a day. This is in contrast to the 6% prevalence of DVT in the subsequent Frisbie[3] study—at the same institution and using the same sensitive radioiodinated fibrinogen leg scanning technique—in which ROM was given 2–3 times a day and the addition of heparin in a randomized group failed to further reduce the prevalence of DVT.[2]

However, a problem with ROM can be raised. In a review of the proven pulmonary embolism (PE) in our acute SCI cohort, it was found that 5 of 19 PE events occurred during or immediately after ROM, suggesting that ROM can release freshly formed but loosely bound DVT (in contrast to the tightly bound, mature DVT that is detected clinically by its inflammatory reaction). The reduction of DVT by ROM may come at a price. I wonder whether the authors know whether any of the subjects they surveyed, including those excluded on account of their death, may have sustained PE.

Conflict of interest

The author declares no conflict of interest.

JH Frisbie
Research Service, VA Boston Healthcare System, Harvard Medical School, Boston, MA, USA
E-mail: jfrisbie@comcast.net

References

1 Agarwal NK, Mathur N. Deep vein thrombosis in acute spinal cord injury. *Spinal Cord* 2000; **47**: 769–772.
2 Todd JW, Frisbie JH, Rossier AB, Adams DF, Als AV, Armenia RJ *et al*. Deep venous thrombosis in acute spinal cord injury: a comparison of 125I fibrinogen leg scanning, impedance plethysmography and venography. *Paraplegia* 1976; **14**: 50–57.
3 Frisbie JH, Sasahara AA. Low dose heparin prophylaxis for deep venous thrombosis in acute spinal cord injury patients: a controlled study. *Paraplegia* 1981; **19**: 343–346.