

CORRESPONDENCE

thetia for plates and screws removal that was followed by the recurrence of SMP, again successfully treated with intravenous guanethidine blocks. The second patient was a 51-yr-old man who had three consecutive operations after a severe trauma of the right wrist and hand, with no subsequent SMP, despite a long-term immobilization of the limb. All three procedures were performed under brachial plexus block. Twelve months after the initial trauma, the second patient received general anesthesia for plates removal. One week later, he experienced severe reflex sympathetic dystrophy, which was treated successfully with intravenous regional blocks and stellate ganglion blocks.

If we consider that the syndrome of sympathetically maintained pain often is related to a dysfunction of the sympathetic nervous system,³ we could postulate that regional anesthesia, by allowing the preoperative onset of a sympathetic blockade, could prevent its development. A preemptive effect of regional anesthesia has been advocated for other types of neuropathic pain, especially the occurrence of phantom limb pain after amputation.⁴ Obviously, large prospective studies are required to confirm the possible preemptive role of regional anesthesia.

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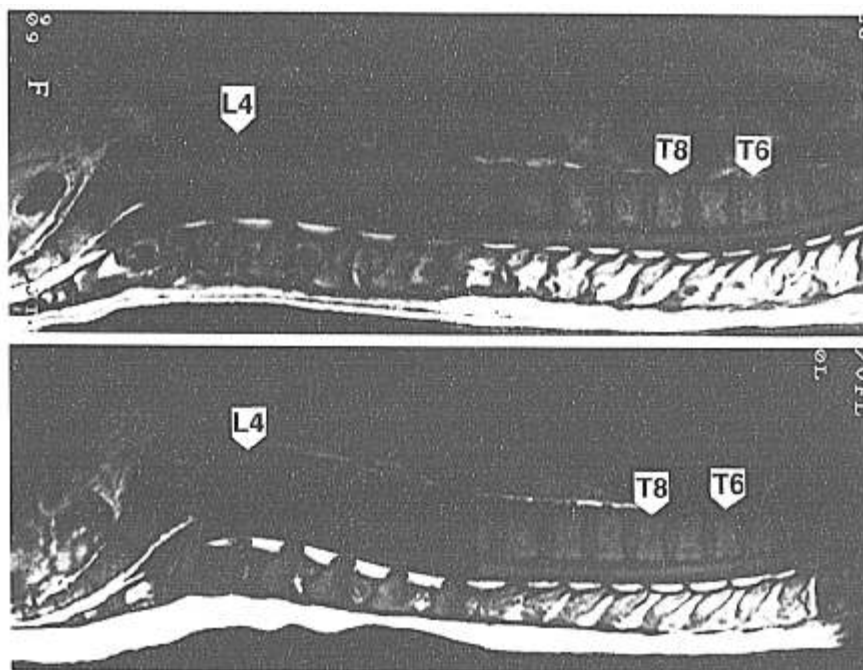
Reevaluation of Physiologic Curvature of the Thoracolumbar Spinal Column in the Supine Position

To the Editor:—The physiologic curvature of the spinal column has a significant influence on the spread of local anesthetics in the subarachnoid space. With respect to the supine position, it is widely accepted that the highest point of the lumbar curvature is at L3 and the lowest point of the thoracic curvature is at T5-T6.^{1,2} However, few data are available to support this concept, especially in living humans. We have reviewed sagittal magnetic resonance images of the spine in 10 patients obtained because of back pain, which were reported as normal by a radiologist. In none of the ten patients were the highest and lowest points of the spinal canal at L3 and T5-6, respectively. It is, however, common practice in those patients to place a pillow under the patient's knees for comfort. This probably influences interpretation of the magnetic resonance images. Therefore, we have examined sagittal magnetic resonance images of spine in 10 healthy volunteers to determine the highest and lowest points of the spinal canal. The volunteers comprised seven men and three

women, aged 16-59 yr (median 31 yr). They were kept supine, and the knees were extended. Again, we found that in none of the subjects were the highest and lowest points of the spine at L3 and T5-T6, respectively. Of the 10 subjects examined, the highest point of the lumbar spinal canal is at L4 in nine and at L3-L4 in one. The lowest point of the thoracic spinal canal was at T8 in five, T9 in two, T8-T9 in two, and T7-T8 in one. Typical sagittal magnetic resonance images of the thoracolumbar spinal canal are seen in figure 1. T1-weighted sagittal scans were obtained by a surface coil and fast spin echo. Although there may be ethnic differences in curvature of the spinal column, the highest and lowest points of the spinal canal, the level of termination of the spinal cord, and the level of termination of the dural sac observed in our volunteers were similar to those depicted in text books of magnetic resonance imaging.³⁻⁵ However, because of the small number of subjects, the question concerning ethnic differences remains unsolved.

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Fig. 1. T1-weighted sagittal midline magnetic resonance images show the spinal column of a 38-yr-old, 170-cm, 67-kg man (*top*) and a 19-yr-old, 153-cm, 54-kg woman (*bottom*). The examinations were performed in the supine position with legs extended. The dural sac lies within the spinal canal and terminates at S2. The level of termination of the spinal cord is seen at L1–L2. In both images, L4 is located at a position higher than L3, whereas T8 is located at a position lower than T6.



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EMLA Cream in the Treatment of Causalgic Pain

To the Editor:—The management of causalgic pain includes sympathetic blockade, transcutaneous electrical nerve stimulation (TENS),¹ vasodilators,² carbamazepine,³ calcitonin,⁴ and intravenous local anaesthetics.⁵ Some success also has been reported with topical

creams such as prostaglandin E1⁶ and 50% dimethylsulfoxide, a free-radical scavenger.⁷ EMLA cream (a 1:1 oil and water eutectic mixture of 2.5% lidocaine and 2.5% prilocaine)⁸ has been used successfully in the management of herpetic neuralgia.^{9,10} We would like to report