Correspondence

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Acute Phlebitis from Nitroprusside

To the Editor:—We report herein a case of acute transient phlebitis following nitroprusside administration. The patient, a 49-year-old woman, was admitted for thoracic laminectomy and removal of a tumor of the spinal cord. Anesthesia for tonsillectomy in childhood, and for a cervical dilatation and uterine curettage in 1970, had been uneventful. The patient had no history of allergies. Physical examination and preoperative laboratory data were normal.

Following premedication with secobarbital and atropine, anesthesia was managed utilizing a sequence of droperidol, fentanyl, thiopental, pancuronium, and nitrous oxide. All intravenous agents were administered through a 16-gauge Teflon catheter, inserted into a vein on the dorsum of the left wrist; the intravenous solution being lactated Ringer's solution. There was no obstruction to venous flow. The solution and administration set were well within their expiration dates.

Three hours after induction of anesthesia, a freshly prepared solution of sodium nitroprusside, 50 mg, in 500 ml of dextrose, 5 per cent, in water was infused at a rate of 1–2 ml/min. Within 30 min, phlebitis of the venous system of the left hand and forearm became apparent (fig. 1). The catheter in the left arm was removed. A second 16-gauge Teflon catheter was inserted into the right arm, and the same concentration of sodium nitroprusside solution was infused. Five minutes later, phlebitis appeared on this arm. The nitroprusside infusion was then discontinued and the necessary hypotension was achieved by administration of halothane. Over the next hour, the red streaks gradually faded and the arms returned to normal appearance. Anesthesia was thereafter uneventful, the postoperative course was uneventful, and all the arm veins remained patent.

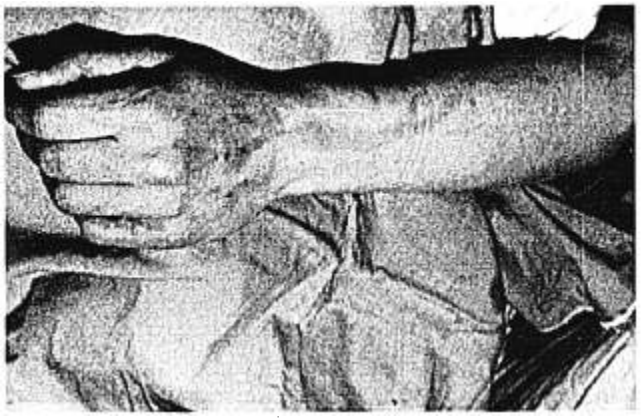

FIG. 1. Phlebitis of the hand and forearm.

The recommended procedure for the preparation of sodium nitroprusside had been rigidly followed; nevertheless, the acute phlebitis was clearly related to the administration of this drug. To our knowledge, this is a complication of nitroprusside use not previously reported.

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Caudal Anesthesia in Children

To the Editor:—We wish to reply to some comments by Takasaki and his colleagues[1] on our data for caudal dose requirements in children.[2,3] Takasaki *et al.* claim that body weight is a better predictor of dose requirements than height. In our experience of more than 150 pediatric cases, height, age and weight all correlate well with caudal dose requirements, but weight is the least powerful predictor (r = 0.94 for age, 0.94 for height, and 0.90 for weight). There is a high intercorrelation among all three variables, and in practice it makes little difference which one is taken. The fact that Takasaki *et al.* found the best correlation with body weight may be explained by the predominantly younger age group in their series, and by the novel

statistical manipulations that they have applied to their data.

As Takasaki *et al.* point out, the very large difference in dose requirements between their series and ours may be explained by the sevenfold difference in spreads of the injections. In their series large dose requirements were associated with a very slow injection rate of 0.15 ml/sec, whereas in our series lower dose requirements were associated with an injection speed of 1 ml/sec. Contrary to their suggestions, we did not find that uneven or unsatisfactory analgesia resulted from rapid injection. Physical spread verified by roentgenography and pharmacologic spread verified by clinical examination showed a uniform and symmetrical distribution. Takasaki *et al.* question the efficacy of our blocks, and the validity of our data, since our patients were given light nitrous oxide–halothane anesthesia for humanitarian reasons. In fact, our observations of segmental spread were made within 60–90 min of injection, and the upper level of analgesia was stable during that time; any regression in dermatome level would have given a falsely high rather than a falsely low value for dose requirements.

Finally, we are astonished by the hybrid statistical treatment that Takasaki *et al.* have applied to their data in figure 1, where volume dose requirements are plotted against body weight. All children of less than 8 kg body weight received 1 per cent lidocaine, while all those weighing 8 kg or more received 50 per cent more drug (1.5 per cent lidocaine). They have taken these two disparate groups and treated them as if they were a single homogeneous population. We submit that this is a highly improper and misleading statistical manipulation, and that the convincing-looking correlation coefficient of 0.93 in figure 1 is meaningless.

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In reply:—In our experience of more than 300 pediatric cases, both body weight and age correlate well with the segmental dose requirements for caudal anesthesia. In the study we reported in this journal, more than half of the subjects (163/250) were less than 2 years of age. We used lidocaine, 1 per cent, for 51 infants less than 8 kg in body weight, and 1.5 per cent solution for 199 children weighing more than 8 kg. The concentration of lidocaine that would produce an adequate block was selected. In a previous paper, we reported that dose requirements were 0.04 ml/kg thoracic spinal segment and 0.05 ml/kg lumbar spinal segment in both groups, regardless of the concentration of lidocaine.[1] This is the reason we plotted volume dose requirements against body weight in figure 1.

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Dental Anesthesia

To the Editor:—I was particularly interested in the comments of Dr. McLaughlin[1] and Drs. Klein, Wollman, and Cohen[2] regarding anesthesia in dentistry. In all institutions the anesthesia training afforded a dental resident in anesthesiology is parallel to that given to a medical resident in anesthesiology. Didactic and clinical training has been updated so that most anesthesiology training programs for dentists are now a minimum of one year, or more often two years. The full-time dental resident in anesthesiology