

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.<sup>1</sup> 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<sup>1</sup> and Drs. Klein, Wollman, and Cohen<sup>2</sup> 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