Discussion

Foldes [6] has reported intravenous administration of lidocaine without the barrier of a tourniquet in an evaluation of the toxicity of intravenous local anesthetic agents. He noted minimal systemic symptoms at a dose of 1.4 mg./kg. administered over a 2.8 minute period. Significant symptoms were not noted until a dose of 6.4 mg./kg. was administered over a 12.8 minute period. This appears to attest the safety of our 1.5 mg./kg. dosage, especially when used with an occlusive tourniquet as noted.

This technique is contraindicated in instances where the extremity cannot be adequately exsanguinated with safety (*i.e.*, a large, fluctuant abscess which may rupture on application of the Esmarch bandage) and also in extensive soft tissue injury where a large amount of the anesthetic agent may be lost from the vascular system.

Summary

A satisfactory but simple method of producing regional anesthesia of the upper extremity is described. The dose-weight relation noted makes this method useful in patients of all ages and sizes. This method appears to be safe, and superior to other similar techniques previously described.

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Methoxyflurane Solubility in Plastics

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Methoxyflurane gradients between end-expired gas and arterial blood were reported recently by Holaday and associates (Anesthesiology **26**: 251, 1965). They sampled end-expired gas through a polyethylene catheter placed near the distal end of an endotracheal tube. A high solubility of methoxyflurane in polyethylene might affect the gradients by: (1) removal of methoxyflurane from end-expired gas and/or (2) contamination of end-expired methoxyflurane from a "leak" of higher inspired tensions through the catheter wall. Depending on which mechanism predominated, any end-expired arterial gradient would be (1) decreased or (2) increased. We, therefore, determined the solubility of methoxyflurane in polyethylene. The technique uses an infrared halothane analyzer to measure methoxyflurane concentrations and has been described previously (Anesthesiology **23**: 349, 1962). A polyethylene/gas partition coefficient of 118 ± 7 was determined.

We also determined the solubility of methoxyflurane in nylon. Using the same technique, a nylon/gas partition coefficient of 3.6 ± 0.2 was obtained. However, when polyethylene and nylon catheters were compared in actual end-expired sampling, no differences in methoxyflurane tensions could be demonstrated. Nonetheless, to assure accurate sampling, we believe that nylon is a much more appropriate material for conduction of methoxyflurane gas samples for analysis.

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