Anesthesiology
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Hypertension from Smokeless Tobacco

To the Editor:—Recently we anesthetized an obese, 49-yr-old woman for a total abdominal hysterectomy. She had a long history of well-controlled essential hypertension; her medication consisting of hydralazine 100 mg bid and atenolol 100 mg qd. Her preoperative medication consisted of diazepam 10 mg po. Prior to surgery her blood pressure had been consistently reported as around 140/80 mmHg. On arrival in the operating room she was hypertensive with a blood pressure of 210/115 mmHg, in spite of an apparent lack of anxiety or apprehension.

At this stage it was discovered that the patient had a large mass of snuff (smokeless tobacco) between the cheek and gum. Removal of the snuff was followed by a return of her blood pressure to 150/85 mmHg over the next 15 min.

Nicotine is a well-known ganglionic stimulant and as such can produce hypertension. In comparison with cigarettes, which contain up to 1.5 mg nicotine, snuff may contain nicotine in amounts up to 30 mg/g. It is, therefore, not surprising that the use of these fine-cut preparations may result in the systemic absorption of relatively large amounts of nicotine. Snuff-dipping provoking paroxysmal hypertension that induced myocardial ischemia has been described in a 69-yr-old woman with pheochromocytoma.[1]

The use of snuff in the United States is on the rise, especially among young people. In 1984 it was estimated that more than 21,000 tons were consumed by some 7 million snuff dippers.[2]

DOUGLAS G. WELLS, F.F.A.R.A.C.S.
Resident in Anesthesiology

JOSEPH M. RUSTICK, M.D.
Resident in Anesthesiology

Parkland Memorial Hospital
Dallas, Texas 75235

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Support of the Arms during ESWL

To the Editor:—Extracorporeal shock-wave lithotripsy (ESWL) is a relatively new technology that allows for the noninvasive fragmentation of kidney stones. To undergo treatment, patients must be immersed up to the neck in a tank of water. This presents the anesthesiologist with a number of problems, including how best to position the patient's arms. Floating the arms in the water necessitates "waterproofing" the ECG electrodes and the iv site. Strapping the arms to arm rests alongside the patient's head is often uncomfortable for the patient and it limits the anesthesiologist's access to the patient's airway. Having the patient grasp the fluoroscopy units (which remain out of the water) requires patient cooperation and may produce unacceptable levels of muscle artifact on the ECG.

Because of these problems, we have devised a simple solution to arm positioning for ESWL. A sling is constructed out of a 2 ft × 3 ft strip of foam "egg-crate" mattress material and is attached to the patient gantry with Velcro™ straps (fig. 1). The patients' arms are

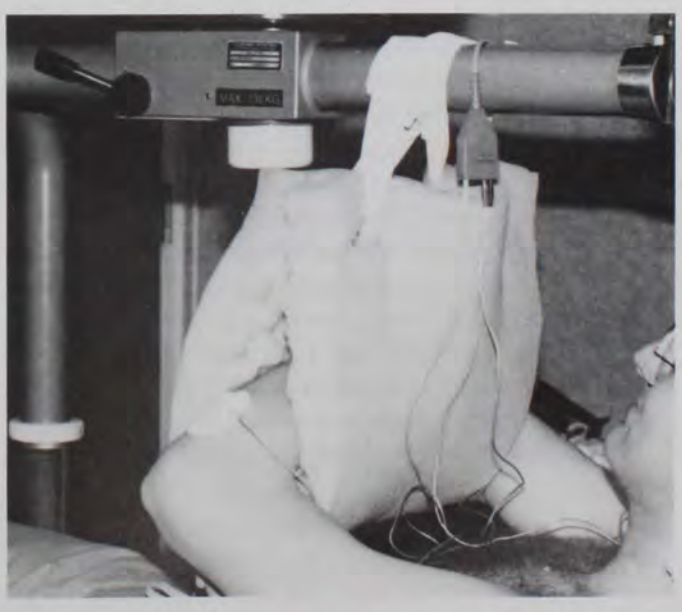

FIG. 1. Patient positioning for ESWL treatment using foam sling.

crossed inside this sling, which comfortably supports them above the surface of the water. We have used all four methods of arm positioning and find the sling to be far superior in terms of patient comfort, ease of use, and quality of ECG signal.

R. KEVIN JONES, M.D.
Senior Resident

MARK H. ZORNOW, M.D.
Assistant Clinical Professor of Anesthesiology

ANDREW J. SARNAT, M.D.
Assistant Clinical Professor of Anesthesiology

Department of Anesthesiology
University of California at San Diego
225 W. Dickinson Street
San Diego, California 92103

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On the Clinical Relevance of an Experimental Study on Neurotoxicity of Local Anesthetics

To the Editor:—In the article on neurotoxicity of local anesthetics by Myers *et al.*[1] there are errors in the design of the study which may make the results questionable. First, the volumes of local anesthetics used were excessive: 1 ml of the test solutions injected into a 225 g rat equates to 308 ml in a 70-kg man and 9,240 mg of 2-chloroprocaine (2-CP), 3,080 mg of tetracaine, 6,160 mg of lidocaine, or 2,310 mg of bupivacaine, *i.e.*, 10–20 times the clinically recommended maximal dosages of these drugs. Not only would the injected volume cause considerable discomfort, but the dosage would most certainly cause problems of general toxicity. Furthermore, the choice of 0.2% saline solution as control in some experiments and a 0.9% in others is not explained.

Second, the numbers of experiments in the various groups vary from 6 to 55, and yet the authors perform statistical comparisons between groups. In the study on endoneurial fluid pressure (EFP) there were only three animals whose sciatic nerves were "bathed" in either 3% 2-CP or normal saline for 48 h. Still, the authors were able to find a significant increase in EFP after treatment with 2-CP compared with "normal values in the contralateral control nerves, ($P < 0.025$)."

Third, permeability studies using horseradish peroxidase (HRP) as a tracer were conducted in only five animals. Under "Results" it is only mentioned that "Penetration of HRP across the blood–nerve barrier also was observed in experimental animals receiving 2-CP (fig. 4)." In fact, blood–nerve permeability was tested only with 2-CP.

Finally, one wonders why the subperineurial edema in figure 2 (right) seems confined only to the lower fascicle. Could there be an artifact?

When an experimental (or clinical) study is designed, it is important to keep the number of experiments in the various groups fairly equal in order to make the statistical calculations reliable. Also, clinical relevance is enhanced by adjusting the dose to the size of the experimental animal. In spite of this, differences between species may naturally obscure the clinical validity of the results. Perhaps this otherwise interesting study will be followed by additional studies that will clarify the questions raised in this letter.

DAG E. SELANDER, M.D., PH.D.
Department of Anesthesiology
V. Frolunda Hospital
Gothenburg, Sweden

At present:
Visiting Associate Professor
Department of Anesthesiology
University of Illinois Hospital
1740 W. Taylor St., Suite 3200 W.
Chicago, Illinois 60612

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