

one of the end products of halothane, has a prolonged serum half-life of 12 to 14 days. Serum bromide concentrations were therefore re-examined with the use of a new highly specific and sensitive method of measurement: x-ray fluorescence spectrometry.<sup>2</sup> Ten healthy, non-operating-room volunteers, five anesthetists who had not used halothane for at least two months, and five anesthetists who had used this anesthetic daily without scavenging devices for the previous two months or more were studied. In the latter individuals, blood samples were drawn at least 12 hours after they had left the operating room. We found no significant difference in the serum bromide concentrations between healthy volunteers and anesthetists who had not been exposed to halothane. The values averaged  $49.2 \pm 9.1 \mu\text{M}$  and  $43.3 \pm 7.6 \mu\text{M}$ , respectively. In contrast, serum bromide values were significantly higher,  $242.6 \pm 72.5 \mu\text{M}$  ( $P = 0.001$ ) in anesthetists chronically exposed to halothane.

The most likely explanation for our finding of much higher serum bromide values in exposed anesthetists than previously reported is our use of a

more sensitive method for measuring serum bromide concentrations.

Whether the higher bromide concentrations chronically achieved among anesthetists are responsible for side effects remains to be established.

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(Accepted for publication January 18, 1977.)

Anesthesiology  
46:376, 1977

### More on Baricity

*To the Editor:*—I feel compelled to call attention to an apparent error in Dr. Rosenberg's article which states that the concentration of "light dibucaine" is "0.66 per cent."<sup>1</sup> Although the proprietary solution of dibucaine commonly used for hypobaric spinal anesthesia and referred to as (Howard) Jones' solution is known to have a higher density at body temperature than tetracaine hydrochloride diluted to 0.1 per cent with distilled water (0.9967 vs. 0.9943 g/ml, 37 C),<sup>2,3</sup> this is *not* because the concentration of dibucaine in Jones' solution is *greater* than that of tetracaine hydrochloride in 0.1 per cent solution. Indeed, the concentration of dibucaine in Jones' solution is only 0.066 per cent (*not* 0.66 per cent). It is a 1:1,500 mixture containing dibucaine, 0.66 mg/ml of 0.5 per cent sodium chloride solution.

Furthermore, it would appear from Dr. Rosenberg's data for tetracaine that the baricity of Jones' solution, though known to be greater than that of 0.1 per cent tetracaine in distilled water, might more closely approximate that of 0.33 per cent tetracaine in distilled water. However, such a comparison cannot be made with accuracy without converting the density values to a common temperature.

It is unfortunate that Dr. Rosenberg combined graphically the density values for various concentrations of tetracaine determined by him at 23-25 C

with "CFS Density Limits 37 C" found by others who established the densities of a number of spinal anesthetic solutions at body temperature.<sup>2,3</sup> It would have been more helpful if Dr. Rosenberg had standardized his data to those already published by others so that his baricity values could be compared with those obtained by others at normal body temperature and so that the data would relate more closely to the clinical portion of his interesting study.

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(Accepted for publication January 18, 1977.)