they were not studied.) Lamina V neurons were usually the most severely depressed. The depression was time- and dose-dependent, could be demonstrated in several animal species, and paralleled the clinical course of anesthesia. Analgesic agents such as morphine, in contrast, had little or no effect on dorsal horn structures (unpublished observations).

What is the significance of these findings in relation to anesthesia—after all, a patient with high spinal section can be fully alert. If it is accepted that all primary afferent relays in the nonspecific core of the central nervous system —brain *and* spinal cord—are subject to gate control (and there is evidence that this is so), it is plausible that some or all general anesthetics keep pain signals from the brain by diffusely shutting down primary relays.

At the very least, the findings may open the way to better understanding of integrative processes in the CNS. Such an understanding is needed to determine the validity of using physical means such as acupuncture for controlling pain. Already a "two-gate" hypothesis has been put forth to explain how acupuncture works,[3] and variations on this theme are sure to follow.

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Obstetrics

KETAMINE FOR DELIVERY Ketamine was studied in 14 pregnant subjects and 18 nonpregnant controls. Approximate clearances calculated indicated reduced clearance in pregnant subjects. Side-effects included 30–40 per cent increases in systolic and diastolic blood pressures, increases in pulse rates and respiration, salivation, and nausea, and vivid but usually pleasant dreams. Although fetal *p*H decreased slightly after induction of anesthesia, it remained in the normal range, along with P_{CO_2} and P_{O_2}. Intrauterine tone increased, and there were changes in fetal heart rate, but none that could not have been attributed to advancing labor. The first five pregnant patients (high-dose) received 2.2 mg/kg/min. The mean induction-to-delivery interval was 26.6 minutes. The last nine pregnant patients (low-dose) received 1.5 mg/kg, followed by continuous infusion of 0.08 mg/kg/min. The mean induction-to-delivery interval time was 17.7 minutes. Of the five high-dose patients, two became apneic and needed positive-pressure breathing. Four of five infants delivered of mothers who received the high dose had one-minute Apgar scores of 2 to 4. Four of the nine infants of mothers who received the low dose had one-minute Apgar scores of 1 to 6. An unaccountable increase in the infant serum bilirubin concentration was found. Mothers and babies were all discharged from the hospital at the expected time postpartum, in apparent good health. Additional detailed studies are needed before the drug can be recommended as an obstetric anesthetic agent. (*Little, B., and others: Study of Ketamine as an Obstetric Anesthetic Agent, Am. J. Obstet. Gynecol. 113: 247–260, 1972.*)