

CORRESPONDENCE

References

1. Bell E: Nitroglycerin and uterine relaxation. *ANESTHESIOLOGY* 1996; 85:683
2. Langevin PB, Wood CE, James CF: Nitroglycerin and uterine muscle relaxation in pregnant sheep (Abstract). *ANESTHESIOLOGY* 1994; 81:A1137
3. Shin Y, Wang K, Kim Y, et al: Effect of nitroglycerin on a

pregnant uterine muscle in vitro: A dose-response study. *Anesth Analg* 1994; 78:S391

4. Kumar D, Zouorlas PA, Barne AC: In vivo effect of amyl nitrite on human pregnant uterine contractility. *Am J Obstet Gynecol* 1965; 91:1061-8

5. Langevin PB, Katovich MJ, James CF: Uterine smooth muscle compliance effect of nitroglycerin independent of a contractile mediator (Abstract). *ANESTHESIOLOGY* 1996; 85:A885

(Accepted for publication May 21, 1997.)

Anesthesiology
1997; 87:717

© 1997 American Society of Anesthesiologists, Inc.
Lippincott-Raven Publishers

In Reply:—Dr. Langevin correctly points out that the animal data do not consistently support the clinically observed phenomenon of uterine relaxation resulting from administration of nitroglycerin in human parturients. Dr. Shin *et al.*¹ found a dose-dependent reduction of contractility in isolated human uterine muscle segments exposed to nitroglycerin in vitro, but the mean dose to abolish spontaneous contractions was 4.5×10^{-4} M (250 μ g in the 12 ml bath), far exceeding commonly used clinical doses. This may be a result of the scarcity of vascular endothelium present in these preparations.

Dr. Langevin also states that administration of nitroglycerin definitely reduces maternal blood pressure. In our experience, the administration of 50-100 μ g of nitroglycerin intravenously or 800 μ g sublingually has not resulted in decreased maternal blood pressure consistently, or even frequently, in urgent clinical settings. These include tetanic uterine contraction, extraction of a breech twin, or manual extraction of placenta. I suspect that the anxiety engendered by rapid interventions such as maternal position changes, increased intravenous fluid administration, application of supplemental oxygen, and summoning the obstetrician ameliorate the vasodilatory effects of the nitroglycerin. This is in contrast to our recent trial using nitroglycerin spray in the setting of elective external version of breech position.² We saw a high percentage of patients respond with decreased blood

pressure (4 of 10 patients experienced a decrease of 20% or greater). It is unclear whether this was in response to the nitroglycerin or mechanical compression from vigorous attempts, and certainly deserves further investigation.

Elizabeth Bell, M.D., M.P.H.
Assistant Professor of Anesthesiology
Division of Women's Anesthesia
Duke University Medical Center
Box 3094
Durham, North Carolina 27710

References

1. Shin Y, Wang K, Kim Y, et al: Effect of nitroglycerin on pregnant uterine muscle in vitro: A dose-response study. *Anesth Analg* 1994; 78:S391
2. Redick LF, Bell EA, Livingston E: Sublingual aerosol nitroglycerin for uterine relaxation in attempted external version. *Am J Obstet Gynecol* 1997; In print.

(Accepted for publication May 21, 1997.)

Anesthesiology
1997; 87:717-8

© 1997 American Society of Anesthesiologists, Inc.
Lippincott-Raven Publishers

Conversion of a Nasal to an Orotracheal Intubation Using an Endotracheal Tube Exchanger

To the Editor:—A 57-yr-old woman presented to the emergency room with confusion, weakness and cyanosis. Her history included a muscle biopsy and contracture test consistent with malignant hyperthermia, confirmed hypertrophic obstructive cardiomyopathy, and an undiagnosed neurologic condition characterized by progressive, episodic confusion, somnolence, dysarthria, and headache. She had been started on amiodarone and sotalol by a cardiologist for paroxysmal atrial fibrillation.

Progressive somnolence and hypercapnic acidosis led to a decision to intubate. Airway evaluation revealed mild micrognathism but no other abnormalities. Monitoring consisted of continuous electrocardiography, oximetry, and invasive arterial blood pressure. Lidocaine spray was applied to the oropharynx and hypopharynx, but direct laryngoscopy was poorly tolerated. After preoxygenation, sleep was induced with propofol. Bag and mask ventilation was easily provided, and vecuronium was administered. With appropriate positioning, di-