STATEMENT OF DAVID H. CHESTNUT, M.D.
before the
SUBCOMMITTEE ON THE CONSTITUTION
COMMITTEE ON THE JUDICIARY
U.S. HOUSE OF REPRESENTATIVES

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My name is David H. Chestnut, M.D. I am Professor and Chairman of the Department of Anesthesiology at the University of Alabama at Birmingham. I am also Professor of Obstetrics and Gynecology at that institution. After graduating from the University of Alabama School of Medicine, I completed residencies in both anesthesiology and obstetrics and gynecology at Duke University Medical Center. For ten years I served on the faculty of the Departments of Anesthesia and Obstetrics and Gynecology at the University of Iowa College of Medicine. I assumed my present position in April, 1994. I am pleased to testify this morning on the effects of anesthesia administered to a mother during a partial-birth abortion.

Estimates of the incidence of nonobstetric surgery performed during pregnancy range from 0.75% to 2%. Thus, as many as 75,000 pregnant women undergo anesthesia and surgery each year in the United States.[1] A large number of these procedures are performed during the second and third trimesters of pregnancy. Examples of commonly performed procedures include laparoscopy, appendectomy, cholecystectomy, and removal of malignant and nonmalignant tumors (e.g., thyroid nodule, breast cancer). In some cases, major surgery is necessary to alleviate life-threatening maternal cardiovascular or neurosurgical conditions. In many cases, postponement of surgery until the completion of pregnancy would compromise the mother's health.

Some proponents of partial birth abortion have claimed that administration of anesthesia to the mother results in fetal death. This is nonsense. Administration of anesthesia to the mother rarely results in fetal injury or death. Rather, the vast majority of women who undergo anesthesia for surgery during the second or third trimester of pregnancy subsequently deliver a healthy baby.

In his detailed description of dilation and extraction for late second trimester abortion, Dr. Martin Haskell stated that he administers 1% lidocaine with epinephrine intracervically as the standard anesthesia. Lidocaine is a local anesthetic that blocks neuronal impulses locally. Although it is absorbed into the systemic circulation, it does not result in substantial systemic effect. (That is, it does not provide significant sedation or systemic analgesia.) Lidocaine and other local anesthetics cross the placenta and enter the fetal circulation. However, fetal blood concentrations of local anesthetic typically are less than maternal blood concentrations. More important, the fetal central nervous system is unaffected by clinical doses of local anesthetic administered to the mother. Maternal administration of a local anesthetic does not result in fetal sedation, analgesia, or anesthesia. In the United States, most newborn infants are exposed to one or more local anesthetic drugs during labor and delivery. At delivery, these infants cannot be distinguished from newborn infants *not* exposed to local anesthetics during labor and delivery.

Dr. Haskell stated that he injects 12 ml of 1% lidocaine intracervically. This dose is approximately 25% of the dose of lidocaine required for administration of epidural anesthesia for cesarean section. Yet even these larger doses of lidocaine do not adversely affect the fetus. Rational use of local anesthetic drugs does not affect the fetus.

Dr. Haskell also described the nasal administration of nitrous oxide/oxygen analgesia. This technique would be expected to result in modest maternal sedation and would have little effect on the fetus. Dr. Haskell stated that patients with minimal bleeding are encouraged to walk within 30 minutes of the completion of the procedure. This confirms that his patients do not experience substantial sedation during the procedure.

In a letter to Senator Barbara Boxer (dated December 5, 1995), Dr. Lewis H. Koplik commented on earlier claims made by Dr. James McMahon. Dr. Koplik described his method of providing sedation and analgesia during second trimester dilation and evacuation (D&E) procedures. He stated that he gives 2 mg of Versed™ (midazolam) and 25 μg of fentanyl to the mother. Both Versed™ and fentanyl cross the placenta and enter the fetal circulation. However, these doses would be expected to result in modest maternal sedation and to have little effect on the fetus. Clearly these doses would not result in fetal death, and it is unlikely that these doses would result in substantial fetal sedation or analgesia. In the United States, approximately 20% of women who undergo cesarean section receive general anesthesia. Administration of hypnotic and analgesic drugs—in doses larger than those described by Dr. Koplik—results in little effect on the fetus. Some of these infants exhibit transient, mild somnolence at delivery, but by five minutes of life, these infants typically cannot be distinguished from those infants whose mothers did not receive general anesthesia.[2]

Dr. Koplik suggested that Dr. McMahon administered 10 to 40 mg of Versed™ and 900 to 2500 μg of fentanyl. In another letter to Senator Boxer, Dr. Mary Campbell stated that this regimen is "the drug combination most frequently used" for "late-term D&X abortion." My comments are six-fold:

It is unlikely that a physician who is not trained as an anesthesiologist would give such large doses of Versed™ and fentanyl to *any* patient.

It is unlikely that any physician—including an anesthesiologist—would give such large doses of Versed™ and fentanyl to any patient in an outpatient setting. Administration of these doses of Versed™ and fentanyl would likely require placement of an endotracheal tube in the mother and prolonged support of the mother's ventilation and oxygenation.

- Administration of these large doses of Versed™ and fentanyl would not result in fetal death or fetal neurologic demise unless there was serious compromise of the mother's ventilation, oxygenation, and circulation. Stated another way, these doses of Versed™ and fentanyl would not kill the fetus unless the mother was killed or injured first.

- Administration of these large doses of Versed™ and fentanyl would not consistently result in total analgesia/anesthesia for the fetus. Although it is true that analgesic drugs given to the mother cross the placenta, enter the fetal circulation, and perhaps provide some degree of pain relief, the extent to which this renders any procedure pain-free is unknown. Maternal-fetal medicine specialists observe fetal withdrawal responses during performance of invasive procedures (e.g., needle sticks) *in utero*. These withdrawal responses suggest that the fetus is capable of experiencing pain—even during the second trimester of pregnancy. Very preterm infants (e.g., 24 weeks' gestation) demonstrate withdrawal responses to painful stimuli after delivery. Physicians at the University of California, San Francisco have performed a variety of surgical procedures on human fetuses *in utero*. Despite the administration of general anesthesia to the mother, these physicians have given additional fentanyl directly to the fetus at surgery, in order to increase the likelihood that the fetus would not experience pain during surgery.[3]

  Dr. Campbell stated that administration of large doses of Versed™ and fentanyl depress fetal respirations. This is irrelevant, because the fetus does not depend on his/her own respiratory efforts to maintain ventilation/oxygenation *in utero*. Rather, fetal oxygenation depends on maintenance of an intact uteroplacental and umbilical circulation, which is unaffected by administration of Versed™ and fentanyl.

- Dr. Campbell stated that administration of these doses of drugs "preclude fetal respiration afterward." This need not affect neonatal outcome. When a newborn infant has respiratory depression secondary to maternal administration of a narcotic drug, the physician provides respiratory support (i.e., bag and mask ventilation or endotracheal intubation) and reverses the narcotic effect with naloxone.

In her "fact sheet," Dr. Campbell stated: "The fetus dies of an overdose of anesthesia given to the mother intravenously." She further stated: "This induces brain death in the fetus in a matter of minutes." There is no scientific basis for these claims. Further, I am concerned over the suggestion that any physician might deliberately give any patient an "overdose" of analgesic/anesthetic drugs. Such practice would clearly endanger the life of the mother.

In summary, these false claims regarding the effects of maternal anesthesia on the fetus may cause some pregnant women to delay necessary and perhaps even life-saving surgery during pregnancy. Further, these false claims may prompt other women to deny themselves adequate pain relief during labor and vaginal or cesarean delivery. In almost all cases, anesthesia does not kill the fetus unless the mother is killed or seriously injured first. Clinical administration of local anesthetic drugs has negligible effect on the fetus. Administration of either small or large doses of Versed™ and fentanyl does not result in fetal death or fetal neurologic injury. I am skeptical that any physician in the United States would knowingly administer 10 to 40 mg of Versed™ and 900 to 2500 μg of fentanyl for an abortion procedure. Finally, it is unlikely that these doses consistently abolish all fetal pain.

I will be happy to respond to your questions.

References:

1. Cohen SE. Nonobstetric surgery during pregnancy. In *Obstetric Anesthesia: Principles and Practice*. Chestnut DH, editor. St. Louis, Mosby-Year Book, 1994, pp 273-293.
2. Reisner LS, Lin D. Anesthesia for cesarean section. In *Obstetric Anesthesia: Principles and Practice*. Chestnut DH, editor. St. Louis, Mosby-Year Book, 1994, pp 459-486.
3. Rosen MA. Anesthesia for fetal surgery. In *Obstetric Anesthesia: Principles and Practice*. Chestnut DH, editor. St. Louis, Mosby-Year Book, 1994, pp 110-121.