

Dilation and Extraction for Late Second Trimester Abortion

Presented at the National Abortion Federation Risk Management Seminar, September 13, 1992

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Introduction

The surgical method described in this paper differs from classic D&E in that it does not rely upon dismemberment to remove the fetus. Nor are inductions or infusions used to expel the intact fetus.

Rather, the surgeon grasps and removes a nearly intact fetus through an adequately dilated cervix. The author has coined the term Dilation and Extraction or D&X to distinguish it from dismemberment-type D&E's.

This procedure can be performed in a properly equipped physician's office under local anesthesia. It can be used successfully in patients 20-26 weeks in pregnancy.

The author has performed over 700 of these procedures with a low rate of complications.

Background

D&E evolved as an alternative to induction or instillation methods for second trimester abortion in the mid 1970's. This happened in part because of lack of hospital facilities allowing second trimester abortions in some geographic areas, in part because surgeons needed a 'right now' solution to complete suction abortions inadvertently started in the second trimester and in part to provide a means of early second trimester abortion to avoid necessary delays for instillation methods. 1

The North Carolina Conference in 1978 established D&E as the preferred method for early second trimester abortions in the U.S. 2 , 3 , 4

Footnotes at end of article.

Classic D&E is accomplished by dismembering the fetus inside the uterus with instruments and removing the pieces through an adequately dilated cervix. 5

However, most surgeons find dismemberment at twenty weeks and beyond to be difficult due to the toughness of fetal tissues at this stage of development. Consequently, most late second trimester abortions are performed by an induction method. 6 , 7 , 8

Two techniques of late second trimester D&E's have been described at previous NAF meetings. The first relies on sterile urea intra-amniotic infusion to cause fetal demise and lysis (or softening) of fetal tissues prior to surgery. 9

The second technique is to rupture the membranes 24 hours prior to surgery and cut the umbilical cord. Fetal death and ensuing autolysis soften the tissues. There are attendant risks of infection with this method.

In summary, approaches to late second trimester D&E's rely upon some means to induce early fetal demise to soften the fetal tissues making dismemberment easier.

Patient Selection

The author routinely performs this procedure on all patients 20 through 24 weeks LMP with certain exceptions. The author performs the procedure on selected patients 25 through 26 weeks LMP.

The author refers for induction patients falling into the following categories: previous C-section over 22 weeks; obese patients (more than 20 pounds over large frame ideal weight); twin pregnancy over 21 weeks; patients 26 weeks and over.

Description of Dilation and Extraction Method

Dilation and extraction takes over three days. In a nutshell, D&X can be described as follows: dilation; more dilation; real-time ultrasound visualization; version (as needed); intact extraction; fetal skull decompression; removal; clean-up; recovery.

Day 1--Dilation

The patient is evaluated with an ultrasound, hemoglobin and Rh. Hadlock scales are used to interpret all ultrasound measurements.

In the operating room, the cervix is prepped, anesthetized and dilated to 9-11 mm. Five, six or seven large Dilapan hydroscopic dilators are placed in the cervix. The patient goes home or to a motel overnight.

Day 2--Dilation

The patient returns to the operating room where the previous day's Dilapan are removed. The cervix is scrubbed and anesthetized. Between 15 and 25 Dilapan are placed in the cervical canal. The patient returns home or to a motel overnight.

Day 3--The Operation

The patient returns to the operating room where the previous day's Dilapan are removed. The surgical assistant administers 10 IU Pitocin intramuscularly. The cervix is scrubbed, anesthetized and grasped with a tenaculum. The membranes are ruptured, if they are not already.

The surgical assistant places an ultrasound probe on the patient's abdomen and scans the fetus, locating the lower extremities. This scan provides the surgeon information about the orientation of the fetus and approximate location of the lower extremities. The transducer is then held in position over the lower extremities.

The surgeon introduces a large grasping forcep, such as a Bierer or Hern, through the vaginal and cervical canals into the corpus of the uterus. Based upon his knowledge of fetal orientation, he moves the tip of the instrument carefully towards the fetal lower extremities. When the instrument appears on the sonogram screen, the surgeon is able to open and close its jaws to firmly and reliably grasp a lower extremity. The surgeon then applies firm traction to the instrument causing a version of the fetus (if necessary) and pulls the extremity into the vagina.

By observing the movement of the lower extremity and version of the fetus on the ultrasound screen, the surgeon is assured that his instrument has not inappropriately grasped a maternal structure.

With a lower extremity in the vagina, the surgeon uses his fingers to deliver the opposite lower extremity, then the torso, the shoulders and the upper extremities.

The skull lodges at the internal cervical os. Usually there is not enough dilation for it to pass through. The fetus is oriented dorsum or spine up.

At this point, the right-handed surgeon slides the fingers of the left hand along the back of the fetus and 'hooks' the shoulders of the fetus with the index and ring fingers (palm down). Next he slides the tip of the middle finger along the spine towards the skull while applying traction to the shoulders and lower extremities. The middle finger lifts and pushes the anterior cervical lip out of the way.

While maintaining this tension, lifting the cervix and applying traction to the shoulders with the fingers of the left hand, the surgeon takes a pair of blunt curved Metzenbaum scissors in the right hand. He carefully advances the tip, curved down, along the spine and under his middle finger until he feels it contact the base of the skull under the tip of his middle finger.

Reassessing proper placement of the closed scissors tip and safe elevation of the cervix, the surgeon then forces the scissors into the base of the skull or into the foramen magnum. Having safely entered the skull, he spreads the scissors to enlarge the opening.

The surgeon removes the scissors and introduces a suction catheter into this hole and evacuates the skull contents. With the catheter still in place, he applies traction to the fetus, removing it completely from the patient.

The surgeon finally removes the placenta with forceps and scrapes the uterine walls with a large Evans and a 14 mm suction curette. The procedure ends.

Recovery

Patients are observed a minimum of 2 hours following surgery. A pad check and vital signs are performed every 30 minutes. Patients with minimal bleeding after 30 minutes are encouraged to walk about the building or outside between checks.

Intravenous fluids, pitocin and antibiotics are available for the exceptional times they are needed.

Anesthesia

Lidocaine 1% with epinephrine administered intra-cervically is the standard anesthesia. Nitrous-oxide/oxygen analgesic is administered nasally as an adjunct. For the Dilapan insert and Dilapan change, 12cc's is used in 3 equidistant locations around the cervix. For the surgery, 24cc's is used at 6 equidistant spots.

Carbocaine 1% is substituted for lidocaine for patients who expressed lidocaine sensitivity.

Medications

All patients not allergic to tetracycline analogues receive doxycycline 200 mgm by mouth daily for 3 days beginning Day 1.

Patients with any history of gonorrhea, chlamydia or pelvic inflammatory disease receive additional doxycycline, 100 mgm by mouth twice daily for six additional days.

Patients allergic to tetracyclines are not given prophylactic antibiotics.

Ergotrate 0.2 mgm by mouth four times daily for three days is dispensed to each patient.

Pitocin 10 IU intramuscularly is administered upon removal of the Dilapan on Day 3.

Rhogam intramuscularly is provided to all Rh negative patients on Day 3.

Ibuprofen orally is provided liberally at a rate of 100 mgm per hour from Day 1 onward.

Patients with severe cramps with Dilapan dilation are provided Phenergan 25 mgm suppositories rectally every 4 hours as needed.

Rare patients require Synalogs DC in order to sleep during Dilapan dilation.

Patients with a hemoglobin less than 10 g/dl prior to surgery receive packed red blood cell transfusions.

Follow Up

All patients are given a 24 hour physician's number to call in case of a problem or concern.

At least three attempts to contact each patient by phone one week after surgery are made by the office staff.

All patients are asked to return for check-up three weeks following their surgery.

Third Trimester

The author is aware of one other surgeon who uses a conceptually similar technique. He adds additional changes of Dilapan and/or laminaria in the 48 hour dilation period. Coupled with other refinements and a slower operating time, he performs these procedures up to 32 weeks or more.

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Summary

In conclusion, Dilation and Extraction is an alternative method for achieving late second trimester abortions to 26 weeks. It can be used in the third trimester.

Among its advantages are that it is a quick, surgical outpatient method that can be performed on a scheduled basis under local anesthesia

Among its disadvantages are that it requires a high degree of surgical skill, and may not be appropriate for a few patients.

Footnotes

- 1 Cates, W. Jr., Schulz, K.F., Grimes D.A., et al: The Effects of Delay and Method of Choice on the Risk of Abortion Morbidity, *Family Planning Perspectives*, 9:266, 1977.
- 2 Borell, U., Emberey, M.P., Bygdeman, M., et al: Midtrimester Abortion by Dilation and Evacuation (Letter), *American Journal of Obstetrics and Gynecology*, 131:232, 1978.
- 3 Centers for Disease Control: *Abortion Surveillance 1978*, p. 30, November, 1980.
- 4 Grimes, D.A., Cates, W. Jr. (Berger, G.S., et al, ed): *Dilation and Evacuation, Second Trimester Abortion--Perspectives After a Decade of Experience*, Boston, John Wright--PSG, 1981, p. 132.
- 5 *Ibid*, p. 121-128.
- 6 *Ibid*, p. 121.

- 7 Kerenyi, T.D. (Bergen, G.S., et al, ed): Hypertonic Saline Instillation, Second Trimester Abortion--Perspectives After a Decade of Experience, Boston, John Wright--PSG, 1981, p. 79.
- 8 Hanson, M.S. (Zatuchni, G. I., et al, ed): Midtrimester Abortion: Dilation and Extraction Preceded by Laminaria, Pregnancy Termination Procedures, Safety and New Developments, Hagerstown, Harper and Row, 1979, p. 192.
- 9 Hern, W.M., Abortion Practice, Philadelphia, J.B. Lippincott, 1990, p. 127, 144-6.

SENATE AMENDMENTS TO H.R. 1833, PARTIAL-BIRTH ABORTION BAN ACT
(House of Representatives - March 27, 1996)
