

Same-Day Dilapan Insertion Before Second-Trimester Dilatation and Evacuation for a Fetal Anomaly or Death

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OBJECTIVE: To evaluate the efficacy of same-day Dilapan insertion prior to nonelective second-trimester dilatation and evacuation.

STUDY DESIGN: Eighty women had Dilapan inserted six to eight hours prior to surgery. Degree of cervical dilatation was assessed after Dilapan was removed.

RESULTS: Seventy-eight of 80 women had adequate cervical dilatation from a single, same-day Dilapan insertion. There were no major complications.

CONCLUSION: Same-day Dilapan insertion prior to planned second-trimester dilatation and evacuation is safe and effective. (J Reprod Med 1996;41:71-72)

Keywords: pregnancy trimester, second; *Laminaria*; fetal death; Dilapan.

Introduction

The use of *Laminaria japonicum* prior to second-trimester evacuation of the uterus has become an accepted part of gynecologic practice.¹ The development of Dilapan (Gynotech, Middlesex, New Jersey) in the early 1980s represented a significant advance over *L japonicum* in its ability to dilate the cervix preoperatively. Dilapan is a totally synthetic hydrophilic dilator made from a polymer of polyacrylonitrile that achieves 12 mm of gradual cervical dilatation in four hours without requiring a paracervical block prior to insertion. Dilapan has been reported as safe in patients undergoing first-trimester evacuation² and, when compared to *L japonicum*, achieves superior dilatation in a shorter amount of time.

Hern³ reported on a pilot study of 64 patients who underwent second-trimester evacuation following insertion of multiple Dilapan dilators one day prior to surgery. The present study was undertaken to evaluate the efficacy of same-day insertion of Dilapan prior to planned, nonelective, second-trimester dilatation and evacuation.

Materials and Methods

Over a three-year period, 80 patients were referred to the author for second-trimester dilatation and evacuation. All patients were at ≥ 15 weeks' gestational age. All dilatations and evacuations were performed in an outpatient setting under inhalational anesthesia six hours after Dilapan was inserted in the cervical canal in the office. All the procedures were performed nonelectively, only for the following conditions: intrauterine fetal demise, fetal chromosomal anomaly or major structural defects incompatible with extrauterine life, exposure to chemotherapy or teratogenic agents earlier in

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gestation, or life-threatening exacerbation of maternal disease by pregnancy.

All patients had ultrasound confirmation of fetal disease or death prior to referral for evacuation. A single, moistened Dilapan was inserted in the cervical canal after povidone-iodine preparation and after pelvic examination confirmed the uterine size and cervical anatomy. One nullipara in whom Dilapan could not be inserted despite strong traction on the anterior lip of the cervix was not included in the present series.

Dilapan was inserted into the cervical canal until only the handle and string were visible at the os. After Dilapan insertion, patients did not eat or drink, were required to avoid placing anything in the vagina and were instructed to report any cramping, bleeding, fever or leakage of fluid. The Dilapan was removed in the operating room just prior to dilatation and evacuation, which was accomplished after the dilated cervix was further dilated to 16 mm and a rigid, 16-mm suction curette was inserted into the uterine cavity to evacuate the contents. Patients were discharged the same day and evaluated two weeks after the evacuation to assess the uterine size and cervix for possible trauma.

The gestational ages of pregnancies were as follows: 15 weeks, 5 patients; 16 weeks, 25; 17 weeks, 15; 18 weeks, 20; 19 weeks, 11; and 20 weeks, 4.

Results

Eighty women with second-trimester pregnancies and many of the aforementioned criteria underwent dilatation and evacuation the same day of morning Dilapan insertion. Seventy-eight women (97.5%) had enough cervical dilatation to permit rapid and atraumatic dilatation for an additional 4 mm to allow insertion of a 16-mm suction cannula. Two women (2.5%) had suboptimal dilatation, to only 7–8 mm, and required full mechanical dilatation with graduated dilators. Identification of the string attached to the Dilapan allowed rapid removal in all patients; no patient had expulsion or disintegration of the Dilapan prior to the procedure. No patient in whom cervical dilatation was adequate sustained any cervical trauma. The two nulliparas in whom extensive manual dilatation was required both sustained cervical lacerations that required repair with 4-0 chromic sutures. The only patient requiring second-trimester dilatation and evacuation in whom the Dilapan could not be inserted was the only patient in the three-year period to sustain uterine perforation during evacuation.

Four patients (5%) experienced mild cramping upon insertion of Dilapan. No patient developed fever, vaginal bleeding, uterine cramping or rupture of membranes. Patients resumed normal activity immediately after the insertion of Dilapan.

All evacuations were completed in under 20 minutes, with a median evacuation time (from removal of Dilapan to removal of calvarium) of 13 minutes; the median blood loss was 200 mL, with a range of 75–800. Procedure time increased with increasing gestational age, although the degree of cervical dilatation by Dilapan was the same regardless of the gestational age. These results are consistent with those reported by other authors.⁴

Discussion

This pilot study demonstrated that same-day insertion of a single Dilapan dilator permits safe second-trimester dilatation and evacuation for nonelective termination of pregnancy between 15 and 20 weeks' gestational age. In 97.5% of patients, dilatation was satisfactory, and no patient had morbidity directly related to insertion or product failure; there were no instances of expulsion of the device prior to surgery or inability to find the string to remove it. The reasons for the absence of minor complications in this series and the 11% incidence in Hern's series may be due in part to the use of only one Dilapan for less than six hours.

The advantages of using only a single Dilapan and same-day evacuation in terms of patient comfort and convenience are indisputable. Use of multiple Dilapan dilators may be required for patients with gestational ages >19–20 weeks, in whom larger instrumentation is required; additional investigations are required to answer this question. Based on this series, further study of same-day Dilapan insertion prior to second-trimester dilatation and evacuation seems warranted.

References

1. Chavpil M, Droegemuler W, Meyer T, et al: New synthetic laminaria. *Obstet Gynecol* 1982;60:729–733
2. Golditch IM, Glasser MH: The use of laminaria tents for cervical dilatation prior to vacuum aspiration abortion. *Am J Obstet Gynecol* 1974;119:481–483
3. Hern WH: Cervical treatment with Dilapan prior to second trimester dilatation and evacuation abortion. *Am J Gynecol Health* 1993;5:23–26
4. Hern WM, Zen C, Ferguson KA, et al: Outpatient abortion for fetal anomaly and fetal death from 15–34 menstrual weeks gestation: Techniques and clinical management. *Obstet Gynecol* 1993;81:301–306