

CERVILATOR (VIBRATING CERVICAL CANAL DILATOR) USE TO SHORTEN INDUCTION—ABORTION INTERVAL IN MIDTRIMESTER PREGNANCY TERMINATIONS

By

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SUMMARY

Cervilator (vibrating cervical canal dilator) uses vibrations for loosening the cervical canal with eventual dilatation. It has been used successfully to shorten first stage of labour by dilating the OS at the time of delivery. Its use to shorten induction-abortion interval in midtrimester pregnancy termination is outlined here.

Introduction

The use of cervilator (vibrating cervical canal dilator) is based on the phenomenon that when a vibration is given to the cervix of the uterus, the tissue of the portion loosens. This has been successfully used to widen the OS at the time of delivery thus shortening the first stage of delivery or to dilate the cervical canal in early or midtrimester pregnancy termination.

We are presenting here our experience in the use of this instrument to shorten induction-abortion interval in midtrimester pregnancy termination using intra-amniotic 20% saline or extra-amniotic ethacridine lactate. The study was conducted for a period of one year and 3 months from January 1983 to March 1984.

Material and Methods

A total number of 100 midtrimester pregnancy terminations using intra-

amniotic 20% saline and extra-amniotic emcredyl (50 cases each) were selected for the study.

All the cases were between 16-20 weeks of gestation. The instillation of saline or emcredyl was performed in usual standard manner.

The parity of the patients varied from 2-4 (average 2.6) and age between 25-34 (average 28.3). Very young or elderly primigravidas and grand multiparas were excluded from the study. Similarly cases with medical disorders, previous caesarean section or uterine surgery scars were excluded. For that matter a special effort was made to exclude cases who may have some additional factors which can alter injection-abortion interval.

In addition a control sample of 50 cases (25 cases each of saline and emcredyl) in a similar age and parity group and of same gestational age (16-20 weeks) was selected for comparison.

Description of the Unit: (Fig. 1)

The unit weighs approximately 20 Kg and has dimensions 420 (W) x 950 (H) x 420 (D) m.m. Its power requirements

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Accepted for publication on 24-9-87.

are 50/60 Hz., approximately 40 VA. It is mounted on a stand which should be grounded using grounding cord. The head has a scale showing vibration frequency 3000-6000 cycles/min. A driving wire connects the instrument to the handle into which vibrating levers are mounted.

Method of Application

The application of the vibrations started after the OS has begun to open up which varied from 12-18 hours after instillation. The dilation was performed using small dilating levers first, followed by larger dilating levers. The time required for complete dilation varied from 5-20 minutes and depends upon the factors such as hardness of the cervix, initial opening of the OS, presence of uterine contraction etc.

Results

Table I shows comparison between induction abortion interval in cases in whom cervilator was used 12 hours after instillation of saline and control sample. In study sample majority (74%) aborted within 18 hours and in control sample majority aborted after 18 hours (78% within 19-30 hours). In study sample

TABLE I
Induction—Abortion Interval in 50 Cases of Intraamniotic 20% Saline Followed by Application of Cervilator

Hours	I.A. Saline and cervilator (50 cases)	Control sample (25 cases)
12-18	37 (74%)	4 (16%)
19-24	13 (26%)	11 (44%)
25-30	—	8 (32%)
31-36	—	2 (4%)
Mean I.A. Interval	16 hours and 20 minutes	25 hours and 30 minutes

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mean induction abortion interval was shortened by 9 hours and 10 minutes as compared with control sample.

Table II shows induction abortion interval in emcredyl induced cases. Here also mean induction-abortion interval was shortened by 13 hours and 20 minutes in cases in whose cervilator was applied.

TABLE II
Induction—Abortion Interval in 50 Cases of Extraamniotic Emcredyl and Cervilator

Hours	Emcredyl and Cervilator (50 cases)	Control sample (25 cases)
12-16	39 (78%)	1 (4%)
19-24	11 (22%)	7 (28%)
25-30	—	11 (44%)
31-36	—	6 (24%)
Mean I.A. Interval	15 hours and 10 minutes	28 hours and 30 minutes

Discussion and Comments

Several adjuncts can be used to expedite induction-abortion interval. Administration of intravenous oxytocin can shorten induction abortion interval in saline instillation but not in prostaglandin instillation. Intramuscular prostaglandine (carboprost) or vaginal suppository can be used to augment abortion. It is also a method of choice in failed or delayed abortions. (Gogate *et al* 1972, Ambiyé *et al* 1982). Direct cervical dilatation by laminaria tents or metryurenter can also be used to facilitate abortion. Even foley's catheter with balloon inflated upto 30-75 cc. of water in the uterus and catheter tied to 0.5 Kg. orthopaedic traction at the foot end of the bed has been reported. (Stubbsfield 1978).

However all these methods have their own disadvantages like side effects of

drugs such as oxytocin, prostaglandins etc., introduction of foreign body with resultant sepsis in laminaria tents and Foley's catheter.

The use of cervilator does not have any such complications. Also the dilatation can be accomplished, within a short time (5-20 min.). Although cervilator was originally designed for accelerating first stage of labour it can be successfully used to shorten induction abortion interval in second trimester abortion.

However, prohibitive cost and delicacy of the instrument may prevent its wide scale use.

Acknowledgement

We are thankful to Dr. J. V. Bhatt

and Dr. B. R. Kalke, Deans T.N.M. College for allowing us to carry out the study. We also thank Dr. (Mrs.) P. M. Pai present Dean T.N.M. College for allowing us to publish the study.

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See Fig. on Art Paper I