Evaluation of Ethacridine Lactate Followed by Carboprost Tromethamine by Extraamniotic Route in Mid Trimester Termination of Pregnancy

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Summary: Use of ethacridine lactate by extraamniotic route for mid trimester termination of pregnancy has been proved to be effective, easy & safe.

Addition of carboprost tromethamine extraamniotically following ethacridine lactate not only raises the rate of completeness of abortion but also reduces induction abortion interval & failure rate of procedure significantly.

Prostodin, when used alone for mid trimester termination of pregnancy by intramuscular route is required in larger doses. Being a costly drug it becomes unaffordable to our population.

In our study, only 1 ampule of prostodin containing 1 ml of carboprost tromethamine (250 microgram/ml) is required following 150CC of 1% (w/v) ethacridine lactate which makes the procedure more effective, more complete with shorter induction abortion interval, less of side effects & more cost effective.

Introduction:

The subject of pregnancy termination is charged with emotion, superstition & religious belief. It involves social, political, economical & legal issues of every country. Inspite of different methods & routes of different drug administrations for mid trimester termination of pregnancy, the safest, most effective, the easiest, the cheapest & the most accurate method is yet to be derived. Ethacridine Lactate was found to be more effective by Gupta (1989) & safe with rare fatal complications by Karthak et al (1993). Extraamniotic route has been found to be more effective as compared to intraamniotic route by Steyn & Pienaar (1993).

Simultaneous use of different drugs or devices may have a synergestic effect on uterine stimulation to procure mid trimester termination of pregnancy.

Aims & Objectives:

Our study aimed to compare the efficacy of extraamniotic instillation of 2 different drugs for mid trimester termination of pregnancy.

Drug combinations were –
1) Ethacridine Lactate.
2) Ethacridine Lactate followed by Carboprost Tromethamine.

The objective of study was to compare
- Induction Abortion Interval
- Completeness of Abortion.
- Incidence of failure of abortion
- Major & Minor side effects.

Materials & Methods:

This study was carried out in major teaching hospitals in Bombay on 100 patients who sought mid trimester termination (16-20 Wks).

Out of the 100 patients included, 24 were unmarried primis for MTP for social reasons, 26 were primis & fetal malformations non-compatible with life diagnosed on USG & rest were multigravidae with H/o failed contraception. Patient with known medical & surgical high risks e.g. bronchial asthma, gastritis & previous uterine surgery were excluded. Patients were divided into 2 groups of 50 each.

Group. I – Extraamniotic ethacridine lactate.
Group. II – Extraamniotic ethacridine lactate followed by carboprost tromethamine extraamniotically 6 hrs late through a Foley catheter. After hospitalisation, informed consent, under all aseptic precaution & prophylactic antibiotic cover 150 cc of 1% (w/v) ethacridine lactate was instilled extraamniotically with the help of 16no. Foley catheter in Group I.

Catheter was doubly tied to prevent leakage of dye & left in Situ for next 6 hrs & then removed.

In the second group, a similar procedure was done but 1ml of carboprost tromethamine (250 mg/ml) diluted with 9cc of distilled water was instilled extramniotically through Foley catheter at the end of 6 hours & then the catheter was removed.

In both the groups the patients were provided sterile pads, kept ambulatory & on liquid diet. Patient's vital parameters, abdominal girth & uterine activity were monitored. Signs like bleeding per vaginum & symptoms like pain in abdomen were looked for.

Abortion was augmented in both the groups after the internal os was open with the help of 10 U oxytocin in 500ml of Ringer Lactate with initial infusion rate of 0.5 milliunits/ml titrated by 1-2 milliunits/ml every half hourly till maximum of 20 milliunits/min. or till good uterine contractions were established (whichever was earliest).

In each case induction abortion interval, time for opening of os, completeness of abortion, minor side effects & amount of blood loss was noted.

Suspected cases of incomplete abortion were completed by immediate post abortal check curettage. Blood loss was graded as mild moderate & severe depending upon no. of pads superficially stained. Each pad measuring 50cc blood loss during curettage also contributed in grading the haemorrhage.

Minor side effects like diarrhoea, nausea, vomiting, fever etc were treated symptomatically.

Failed abortions (at the end of 72 hrs of induction by any of these methods were terminated by intramascular carboprost Tromethamine (250mg) 3 hrly. To counteract minor gastrointestinal side effects drugs like lomotil (diphenoxylate hydrochloride) & perinorm (metachlorpromide hydrochloride) were given half hour prior to each dose.

Discussion:

After passage of MTP act in India 1972, outlook towards abortion has changed considerably & has proved to be a social boon to a patient & her family.

In our study, 50% were young unmarried primis who sought termination of pregnancy for social reasons.

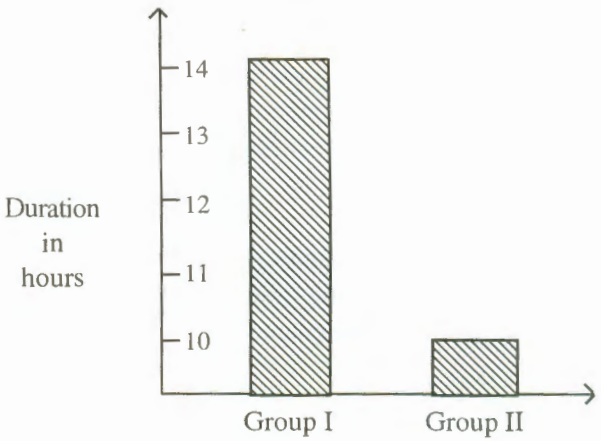
Attempt to terminate pregnancy in such cases may invite serious complications ruining patient's life. Because of incomplete anatomical & physiological maturity of the genital tract, termination procedure may result in more operative injury, tear or laceration & her future obstetric career can be at stake.

Use of etharidine lactate, an antiseptic acridine dye by extraamniotic route for mid trimester termination of pregnancy is safe & most effective as recommended by Manabe (1969).

In our study it was observed that with the use of extraamniotic carboprost tromethamine following ethacridine lactate,

- Onset of abortion was earlier (Table I)

Table I.
Duration of onset of abortion in II groups

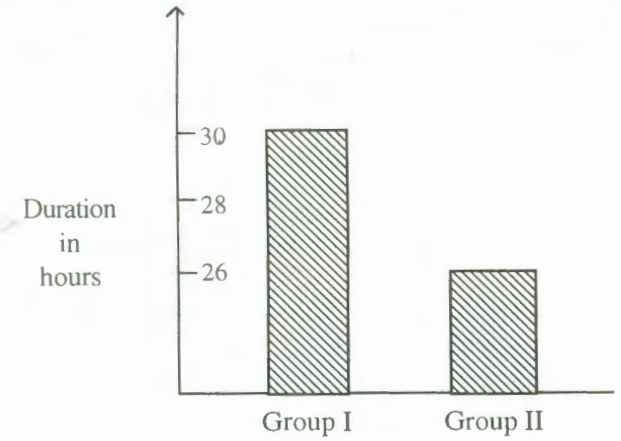


	Group I	Group II
Range	10-18 hr	8-12 hr
Mean	14 hr	10 hr

Onset of abortion was early in Group B

- Duration of induction abortion interval was reduced significantly (Table II)

Table II.
Duration of induction abortion interval in II groups

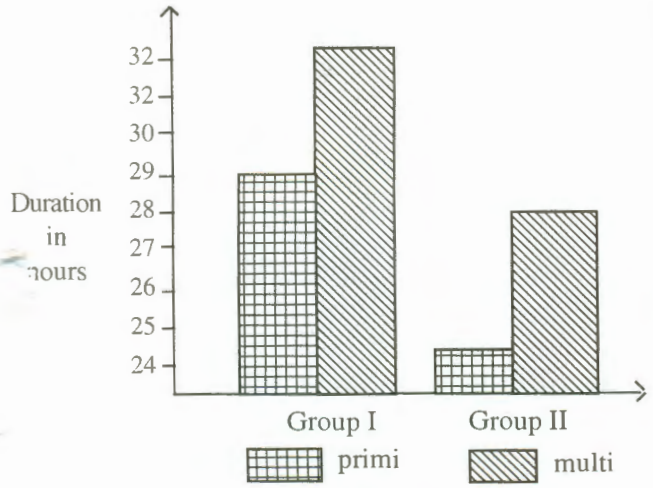


	Group I	Group II
Range	16.5 - 44	14 - 38.5
Mean	30 hr	26 hr

Duration of induction abortion interval was significantly reduced in Group II.

- Primigravidas responded earlier than multigravidas in both the groups (Table III)

Table III.
Difference in induction abortion interval in primi & multi in II groups.



Primis responded earlier than Multis in each Group.

Table IV
Completeness of abortion in II Groups

	Group I	Group II
Complete	2%	40%
Incomplete	94%	58%
Failed	4%	2%

Rate of completeness of abortion was more in Group II.

Completeness of abortion was increased to almost 40% from 2% (Table IV)

Table V
Efficacy of Abortion in II Groups

	Group I	Group II
At the end of 30 hrs	84%	92%
At the end of 72 hrs.	96%	98%

Failure Rate was Lower in Gr.II at the end of 30 hrs of induction.

Table VI
Grading Blood Loss in II groups

	Mild (<50cc)	Moderate (50-100cc)	Severe (>100cc)
Group I	72%	20%	8%
Group II	92%	6%	2%

Severity of Blood Loss was Significantly Reduced in Group II

- Though minor side effects like nausea, vomiting, diarrhoea or fever were observed in almost every alternate patient, the major complication of haemorrhage was (Table VII) significantly reduced (Table VI)

Table VII
Percentage of side effects in II Groups

	Group I	Group II
Nausea/Vomitting/ Diarrhoea	28%	60%
Fever	-	50%

Though minor gastrointestinal side effects were observed frequently in Group II, major complication like blood loss was significantly reduced.

Conclusion

The method of extraamniotic instillation of ethacridine lactate followed by carboprost tromethamine in mid-trimester termination of pregnancy is more effective, more complete, with shorter induction abortion interval, less of side effects & cost effective.

Finally, whatever may be the choice of method particular care must be taken to protect the cervix from injury whether from hyperstimulation of uterine contraction or from acute mechanical dilatation.

The patient seeking mid trimester termination of pregnancy is either inexperienced frightened adolescent girl with her first pregnancy or a woman carring recently diagnosed defective fetus.

In either case it is important that her future reproductive carrier should not be comprised in course of pregnancy termination.

References

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Acknowledgement

We acknowledge, Dr. M.S. Bhattacharya (The Head of Dept Obs & Gyn. KEM Hospital). & Dr. P.M. Pai (The Dean KEM Hospital) for allowing us to publish this data.