

CLINICAL TRIAL ON SECOND TRIMESTER ABORTION-SULPROSTONE VERSUS ETHACRYDINE LACTATE AND ONE INJECTION OF SULPROSTONE

WILLS SHIELA • SHEILA RAJARATHINAM • T. GEETA

SUMMARY

Prostaglandin and Ethacrydine Lactate are widely used for second trimester abortion. With Carboprost (PGF₂) the gastro-intestinal side effects and utero cervical injuries were found to be more. With Ethacrydine Lactate, a bacteriosidal agent, even though the side effects were less, morbidity was more due to prolonged induction abortion interval. In our study with Sulprostone (PGE₂) the abortion time was (12-14 hours) as that of Carboprost but other side effects were much less. The success rate was 86%. 80% had incomplete abortion, 30% needed Syntocinon drip and 20% had gastroenteritis. With Ethacrydine alone, the abortion time was 32-36 hours as reported in many studies. Inclusion of one injection of Sulprostone with Ethacrydine reduced the abortion time of 18-20 hours. The success rate was 92%. Only 20% had incomplete abortion. 10% needed Syntocinon drip and the side effects were minimal. We found this combination is better than Sulprostone alone.

Introduction

Injection Sulprostone is a synthetic prostaglandin, E₂ derivative-16 phenoxy-17, 18, 19, 20 Tetronor PGE₂, methyl, sulphonylamide. Studies have shown that Sulprostone is an uterine stimulant and a cervical primer, whereas Carboprost (15 methyl PGF₂) is only an uterine stimulant. Ethacrydine Lactate is an antiseptic agent. In this study, we used Sulprostone

injection in one group and Ethacrydine lactate with one injection of Sulprostone in the second group. The aim of this study was to evaluate the safety and effectiveness with reference to abortion time, gastrointestinal side effects, coagulation failure and uterocervical injuries.

Material and Methods

This study was conducted in Government RSRM Lying-In Hospital, Madras-13. Sixty healthy subjects in the age group of 16-35 years and with pregnancy be-

tween 13-20 weeks were selected. 30 subjects were given 500 mcg Sulprostone, dissolved in 2 ml of distilled water every four hours intramuscularly. Maximum six injections were given. The cut off point was 24 hours. To the second group of 30 subjects, 150 ml of 0.1% Ethacrydine Lactate was instilled, extraamniotically through a Foleys catheter connected to a drip. After 4 hours, Foleys catheter was removed, and one injection of Sulprostone was given intramuscularly. In our study, out of 60 subjects 26 were unwed teenage mothers and 14 were widows. Hb, urine analysis, clotting time, Rh typing and blood group was done prior to the administration of the drugs. Vital signs and BP were recorded every one hour and clotting time was done every 4 hours. The time of onset of contractions, onset of bleeding, amount of bleeding, need for Syntocinon drip incomplete or complete abortion, need for check curettage and the induction abortion interval were recorded. Necessary medication was given for pyrexia, diarrhoea, vomiting and severe uterine cramps. If the subjects did not abort within 24 hours, Syntocinon drip was started. Pregnancy was terminated by hysterotomy if pyrexia was more than 39°C, severe vomiting, diarrhoea, signs of threatened uterine rupture, cervical injuries and coagulation failure.

Results

Group I - With Sulprostone given every 4 hours, success rate was 86%. We had 4 failures, where the pregnancy was between 13-15 weeks. They did not abort even after 6 injections. All 4 were unwed teenage mothers. They expelled the products with Syntocinon drip but needed check curettage. Average abortion time was 12-14 hours. Earliest abortion was 6 hours 10 mts. 70% needed only 2 injec-

tions. 30% needed augmentation with Syntocinon drip. Only 20% had complete abortion. 80% needed check curettage. 20% had mild gastroenteritis. We did not have any pyrexia, coagulation failure and utero-cervical injuries. 25% had bleeding more than 100 ml. None needed blood transfusion.

Group II - 30 subjects had extraamniotic Ethacrydine Lactate and 500 mcg of Sulprostone. The success rate was 92%. There were only 2 failures. One was G4 P3 L3, very obese with patulous cervix. There was leakage of the Ethacrydine. She did not abort every with Syntocinon drip. So pregnancy was terminated with hysterotomy. The second one was an unwed teenage mother, whose pregnancy was 15 weeks. She aborted after the Syntocinon drip was given. She needed a check curettage and blood transfusion. The average induction abortion time was 18-20 hours. Earliest abortion was 15 hours 20 mts. 20% had incomplete abortion. 20% had check curettage. 5% had bleeding more than 100 ml. One needed blood transfusion. 10% needed Syntocinon drip. Gastrointestinal side effects were minimal. There was no coagulation failure and utero-cervical injuries. Summary of the results is given in Table I.

Discussion

Studies conducted by various authors like Rajan and Sarada (1978) Mukerjee Chandrawali (1981) Sinha and Ray (1986) using Carboprost (PGF₂) have found that, even though the abortion time was 12-14 hours, the morbidity and life threatening side effects like bronchospasm and utero-cervical injuries were more. Cervical injuries were reported in 1% cases in Rajan and Sarada's (1978) and Malpani and Krishna's (1987) and in Population Re-

TABLE - I
SULPROSTONE VERSUS ETHACRYDINE LACTATE
PLUS ONE INJECTION OF SULPROSTONE

Side effects	Results	
	Sulprostone	Ethacrydine + one injection of sulprostone
Mortality	Nil	Nil
Success rate	86%	92%
Failure rate	14%	8%
Abortion time	12-14 hrs.	18-20 hrs.
Incomplete abortion check curettage	80%	20%
Earliest abortion	6 hrs. 10 mts.	15 hrs. 20 mts.
Bleeding more than 100ml	25%	5%
Augmentation with Syntocinon	30%	10%
Gastroenteritis	20%	Nil
Coagulation failure	Nil	Nil
Pyrexia	Nil	Nil
Utero cervical injury	Nil	Nil

ports on Prostaglandin (series 6, 1980).

With IM Sulprostone 500 mcg, the success rate was 86%. In Patel and Sheth's series (1987) the success rate was 85.71% which corresponds with ours. Abortion time was 12-14 hours in our study. Earliest abortion was 6 hours 10 mts. In Patel and Sheth's (1987) series the abortion time was 13 hours 20 mts. and in Malpani and Krishna's (1987) series 15 hours 10 mts. 65% of our cases had incomplete abortion and needed check curettage. In our study 25% had bleeding more than 100 ml where as in Patel and Sheth's (1987) study none had bleeding more than 100 ml. Our results correspond with those of Malpani and Krishna (1987) and Patel and Sheth (1987) in that 30% needed augmentation with Syntocinon drip. 65% of Patel and Sheth's (1987) cases had gastroenteritis and two had to discontinue because of this. We had only 25% cases with mild gastroenteritis. We did not have any life threatening side effects. All our 4 failures be-

longed to early second trimester pregnancy (13-15 weeks).

With Ethacrydine plus one injection of 500 mcg of Sulprostone the success rate was 92%. The success rate was 80% in Malpani and Krishna's (1987) study. The abortion time in our series has considerably reduced to 18-20 hours. Earliest abortion was 15 hours 10 minutes. In Malpani and Krishna's (1987) study the induction abortion interval was 20 hours 20 minutes. In our series 80% aborted completely and only 20% needed check curettage. In Malpani and Krishna's (1987) series all (100%) had complete abortion. Like our study they also had 5% cases with bleeding more than 100 ml. 10% of our cases needed augmentation with 10 units of Syntocinon. Whereas 30% of their cases needed Syntocinon. We did not have any coagulation failure or utero-cervical tears. Gastrointestinal side effects were minimal. This corresponds with the report in Population Reports (1980) and Malpani

and Malpani and Usha Krishna observations (1987).

To conclude, Sulprostone is better than Carboprost as the gastrointestinal side effects and utero-cervical injuries are less, eventhough the abortion time is same (12.14 hours).

Intramuscular administration is simple and has the advantage of dose individualisation, so that overdosage can be avoided. Addition of one injection of Sulprostone to extra-aminotic Ethacrydine has reduced the abortion time considerably to 18-20 hours, and the morbidity

too. The side effects are minimal. The failure of abortion was high in early second trimester pregnancies in both groups.

References

1. *Rajan, R, Sarada, S.: J. Obstet. and Gynec. India 28:523, 1978.*
2. *Population Reports Series 6 No.8 March 1980.*
3. *Mukerjee, M., Chandrawali, F.: J. Obstet. and Gynec. India 31:891, 1981.*
4. *Sinha, J. and Roy, S.: J. Obstet. and Gynec. India 36:424, 1986.*
5. *Patel, S. and Seth, S.: J. Obstet. and Gynec. India 37:375, 1987.*
6. *Malpani, A. and Krishna, U.: J. of Obstet. and Gynec. India 37:656, 1987.*