INTRACTABLE POST-PARTUM HAEMORRHAGE TREATED WITH (15-S)—15 METHYL PROSTAGLANDINS F2 ALPHA

By

NANDITA R. BHATTACHARAYA AND PRABHA R. BHATTACHARAYA

Introduction

The etiology of serious obstetric haemorrhage in the post partum period has been determined to be uterine atony in majority of cases. An extensive clinical experience with the prostaglandins in termination of pregnancy and trials of term labour induction has established these compounds as effective uterotonic agents. As such there would be justification to assess the possible utility of the prostaglandins for treatment of postpartum haemorrhage due to uterine atony. To date two reports have appeared in the literature which have addressed this issue. Takagi *et al* (1977) reported on the effectiveness of (15-S)-15 Methyl Prostaglandin F_2 alpha in controlling postpartum haemorrhage and found that local administration through injecting direcetly into the uterine musculature either transabdominally or transvaginally resulted in dramatic reduction in bleeding. Corson and Bolognese (1977) on the basis of single case suggested that (15-S)-15 Methyl Prostaglandin F_2 alpha might be useful in the treatment of haemorrhage due to postpartum uterine atony which was unresponsive to intravenous oxytocin, intravenous methyl ergometrine maleate and uterine massage. This trial was taken up to prove the efficacy of this drug.

From: Department of Obstetrics and Gynaecology, Government Medical College, Nagpur.

Accepted for publication on 8-5-86.

*Carboprost Tromethamine, Upjohn.

Material and Methods

In the year 1981 to 1982 in Government Medical College, Nagpur, there were 9 cases of intractable post partum haemorrhage who were unresponsive to intravenous oxytocin, intravenous methyl ergometrine maleate and uterine massage but responded extremely well to intra-muscular (15-S)-15 Methyl Prostaglandin F_2 alpha.*

All these patients were in the age group between 20-30 years. Primi were 33%, 22% were 2nd gravida and 33% were third gravida. Table I summarises these 9 cases. The response to the (15-S)-15 methyl Prostaglandin F_2 alpha was remarkable. None of them had any side effects. Four patients responded to single dose of 125 Ugm, 4 required second dose of 125 Ugm and only 1 patient who was 3rd gravida nullipara had premature delivery and had manual removal of placenta for retained placenta required 3 doses of 125 Ugm each.

Results

All responded to intramuscular (15-S)-15 Methyl Prostaglandin which shows that the results are encouraging. More trials of this type should be undertaken to prove its efficacy.

Discussion

Thus it is concluded from this study that when all oxytocic drugs fail to con-

TABLE I

Showing Material, Method and Result of Treatment With Oxytocics and (15-S)-15 Methyl Prostaglandin F2 Alpha

Obstetrics condition associated with Uterine atony	Total dose of Oxytocics received		Dose of (15-S)-15 Methyl Prostaglandin F2 alpha received	Results and remarks
	Ergometrine maleate	Intravenous pitocin drip		
Group I	**1st Case**			
Lower segment caesarean section for prolonged labour due to uterine inertia under spinal anaesthesia. Both had atonic Uterus. (2 cases)	0.8 mg intravenous drip of 5% 540 ml dextrose with 0.4 mg and 0.4 mg intramyo metrial	20 units in 540 ml of 5% dextrose increased to 60 units	125 Ugm intramuscular, 2nd dose given after 25 minutes intramyometrial 125 Ugm	Uterus started regaining tone after 2nd dose of prostaglandin and bleeding was controlled.
	2nd Case			
	0.8 mg intravenous	20 units in 5% 540 ml of dextrose drip and 5 units intramuscular	125 Ugm intramuscular	Uterus started gaining tone after 2 minutes of the dose and bleeding was controlled, but patient died after 2 days due to septic aemia.
Group II				
Premature delivery and atonic post partum haemorrhage after manual removal of placenta	0.8 mg intravenous 0.4 mg intramuscular	30 units in 5% 540 ml of dextrose	125 Ugm intramuscular. 2nd dose 125 Ugm after 1½ hours. 3rd dose after 3 hours	After 2nd dose trickle still persisted which responded very well to the 3rd dose.
Group III	**1st Case**			
Infective hepatitis complicating pregnancy. Normal delivery with atonic post partum haemorrhage—3 cases.	0.8 mg intravenous ergometrin	5 Units intramuscular 20 units in 540 ml of 5% dextrose	125 Ugm intramuscular	With one dose of prostaglandin the uterus regained tone and bleeding stopped.
	2nd Case			
2nd case was infective hepatitis with sickle cell disease	1.2 mgm intravenous 0.4 mg intramuscular	20 units in 540 ml of 5% dextrose, 5 units intramuscular	1st Dose: 125 Ugm intramuscular 2nd Dose: 125 Ugm after 2 hours	Bleeding reduced after 1st dose; stopped after 2nd dose. Patient died on 7th day due to hepatic coma secondary to fulminating viral hepatitis.

TABLE I (Contd.)

Obstetrics condition associated with Uterine atony	Total dose of Oxytocics received		Dose of (15-S)-15 Methyl Prostaglandin F2 alpha received	Results and remarks
	Ergometrine maleate	Intravenous pitocin drip		
	3rd Case			
	0.8 mg intravenous	10 units in 5% 540 ml dextrose	1st Dose: 125 Ugm intramuscular 2nd Dose repeated after one hour 125 Ugm	Responded very well after the 2nd dose.
Group IV Twin Pregnancy Normal delivery	0.8 mg intravenous	10 units in 5% 540 ml of dextrose 5 units intramuscular	125 Ugm intramuscular	With one dose of prostaglandin uterus regained tone and bleeding stopped.
Group V 3rd gravida normal delivery atonic uterus	0.8 mg intravenous	20 units in 5% of 540 ml dextrose	1st Dose: 125 Ugm intramuscular 2nd Dose: after half an hour 125 Ugm intramuscular	Uterus did not respond to 1st dose but responded well to the 2nd dose of prostaglandin.
Group VI Hydramnios with anencephalic baby. Induction of labour done with 200 ml of 20% hypertonic saline intra-amniotic. After 24 hours intravenous pitocin drip-5 units in 5% 540 ml dextrose—40 drops per minutes Normal delivery after 12 hours of pitocin drip. Developed coagulation failure after delivery	0.8 mg intravenous	20 units in 5% 540 ml of dextrose	125 Ugm of prostaglandin intramuscular	Responded immediately after Prostaglandin and post partum haemorrhage stopped.

trol postpartum haemorrhage (15-S)-15 Methyl Prostaglandin F_2 alpha is the most potent uterotonic and controls haemorrhage effectively. Sometimes dose has to be repeated.

The side effects are minimal. Only one patient out of 9 had vomiting and one out of 9 had loose motions a case of infective hepatitis had bradycardia. Intramyometrial injection was given in case of lower segment caesarean section which was carried out under spinal anaesthesia. It can be safely used in patients with infective hepatitis without any danger of further damage to the diseased liver. It has no immediate toxicity on liver function and can be safely given in these cases where the danger of death secondary to postpartum haemorrhage is much more than liver damage. It is a great help in cases of consumptive coagulopathy as happened in one of the cases of intra-amniotic hypertonic saline. It is a life saving drug where other oxytocics have failed. These patients were also saved from major surgery like internal iliac ligation or hysterectomy in this critical state.

Acknowledgement

We are grateful to Dr. Mrs. P. K. Devi, Director of Upjohn International for including Nagpur Medical College for this trial. We are thankful to Albert David Limited for supplying (15-S)-15 Methyl Prostaglandin F_2 alpha.

References

1. Corson, S. L. and Bolognes, R. J.: Am. J. Obstet. Gynec. 129.
2. Takagi, S. et al: Prostaglandins, 12: 565, 1976.