CLINICAL TRIAL OF INJECTION 15s 15 METHYL PGF2 IN SEVERE POST PARTUM HAEMORRHAGE

By

LALITHA ANANTHASUBRAMANIAM, RAMANI SIVARAMAN AND PREMALATHA

SUMMARY

Postpartum haemorrhage is the leading cause of maternal mortality. In the event of lack of facilities like transport, blood bank, this drug may be a life saving one with minimum side effects and maximum success. The patients in this present series are those who failed to respond to conventional treatment and prior to the availability of prostin, the failure rate with conventional treatment was the order of 20%. With the use of Prostin we are able to treat 80% of these failed cases thus preventing need for surgical intervention.

Introduction

Postpartum haemorrhage due to uterine atony is still a major contributor to maternal mortality in most obstetric services. If this does not respond to conventional treatment, it usually ends up in hypogastric artery ligation or hysterectomy in institutions and uterine packing in Primary Health Centres.

Several investigators have reported on the effectiveness of PGF2α in controlling atonic postpartum haemorrhage by injecting intramyometrially and transvaginally (Takagi *et al*). Corson and Bolognese found intramuscular 15s 15 methyl PGF2α superior to intramyometrial injection in providing haemostasis.

Material and Methods

This study was to determine the efficacy of 15s 15 methyl PGF2α in control of postpartum haemorrhage not responding to conventional methods. Forty cases of atonic postpartum haemorrhage which did not respond to conventional treatment were given 15s 15 methyl PGF2α. $\propto$ .25 mgm by intramuscular injection.

Patients selected were delivered at full term. Haemorrhage secondary to uterine atony did not respond to conventional method. There were no genital lacerations nor retained placental fragments. The uterine response, blood loss and vital signs were noted and the drug was repeated after 1½ hours if there was loss of uterine tone after initial response. If the response to the initial subsequent injections was not there, it was considered a failure and subsequently managed by hysterectomy or hypogastric artery ligation. Forty six cases were taken for control.

Results

The physical data is given in Table I.

From: Madras Medical College and Government Hospital for Women and Children, Madras 600 008.

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TABLE I
Physical Data

		Trial %	Control %
Age:	<25 years	40	36
	>25 years	60	64
Parity:	Primi	30	60
	Multi	70	40
Mode of Delivery	Normal	45	50
	Instrumental	17.5	15.5
	Operative	37.5	34.5

Table II shows the predisposing factors.

Table III shows the uterine response before and after injection Prostin.

Out of 40 cases, 4 cases were taken for hysterectomy (Caesarean) in ½ hour, of the remaining 36 cases, 28 responded. Eight cases required the II injection of prostin which was given 1½ hours later, 4 responded and 4 ended in hysterectomy.

So the final outcome was 32 cases responded giving an incidence of 80%; 8 ended up in hysterectomy with 20% failure.

Table IV shows the analysis of failure cases (8 cases of hysterectomy). The predisposing factors were analysed.

The comparative data of the trial and control cases is given in Table V.

With less blood loss, 10 cases have ended up in hysterectomy resulting in 3

TABLE II
Predisposing Factors

	Trial %	Control %
Hydramnios Twins	27.5	24.5
Prolonged labour	5.0	27.0
General Anaesthesia	47.5	39.5
Abruptio Placenta	15.0 (6)	6.5 (2)
I.P. Sepsis	2.5 (1)	2.5 (1)
Inversion of uterus	2.5 (1)	—

TABLE III
Uterine Response Before and After Injection Prostin

Contractile State of uterus	Before the Injection	½ hour after the Injection	1 hour after Injection	1½ hour after Injection
Boggy	34	16	4	—
Medium	6	10	9	2
Firm	—	14	21	30

TABLE IV

Analysis of Failure Cases (8 Cases of Hysterectomy) The Predisposing Factors were Analysed

Case No.	Parity	Mode of Delivery	Predisposing Factors
1.	III	LSCS	Case No. 1 was post-datism with failed induction
2.	VII	LN	Case No. 2 was a grand multipara with previous h/o. PPH
Case Nos. 3, 4 and 5, the predisposing factors were			
3.	II	LSCS	Abruptio Placenta
4.	II	LN	Abruptio Placenta
5.	II	LN	Abruptio Placenta
And in case Nos. 6, 7 and 8, it was PROM more than 48 hours, in 2 cases, IUD with sepsis in one case			
6.	III	LSCS	PROM—48 hours
7.	II	LN	Intrauterine Death with sepsis
8.	I	LSCS	PROM—TWINS

TABLE V

Comparative Data of the Trial and Control Cases

	No. of cases	MBL	Blood Replacement	Hysterectomy	Maternal
1. Trial	40	650 ±256.9	52.5% (>2 units)	8 (20%)	1 (2.5%)
2. Control	46	300 ±	12.9% (>2 units)	10 (21.5%)	3 (6.5%)

deaths which is statistically significant. The side effects were, vomiting in one case and diarrhoea in 2 cases which were controlled easily.

Discussion

The use of intramuscular 15s 15 methyl PGF2α in uncontrollable atonic postpartum haemorrhage is a breakthrough in the management of these cases. Hayashi *et al* tried in 20 cases with good results in 90%. In our series, out of 40 cases initial dose of 250 micrograms prostin intramuscularly, 80% responded 28 cases requiring single injection and 4 cases the II dose after 1½ hours, 8 cases ended up in hysterectomy in which 3 cases were complicated by sepsis and 3 cases with abruptio placenta. The authors feel that not only cases of chorioamnionitis but also cases of abruptio placenta may not respond to the use of this drug. As the mechanism of action is said to be by increasing the overall muscle tone and by inducing strong contractions resulting in haemostasis. These conditions may alter the uterine muscle and response to this drug. The one death reported in this series was due to transfusion reaction with acute renal failure—after 23 hours.

Conclusion

1. Intramuscular injection of 15s 15 methyl PGF2α is a life saving drug in atonic postpartum haemorrhage which does not respond to conventional method.

2. It can definitely bring down the incidence of surgical intervention and its inclusion and availability in the emergency drugs in the obstetric services of institutions and primary health centres will bring down the maternal mortality due to postpartum haemorrhage.

3. Postpartum haemorrhage in the presence of chorioamnionitis and abruptio placenta do not respond to this drug, and hysterectomy may be the choice of treatment.

Acknowledgements

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References

1. Stephen, L., Corson, Ronald and Bolognese: Amer. J. Obstet. Gynaec., 129: 948, December 1977.
2. Takagi, S. Yoshida, T. Togo, Y. et al.: Prostaglandins, 12: 565, October 1976.