

FETO-MATERNAL LEAK FOLLOWING MTP

By

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SUMMARY

Five hundred cases comprising of 100 cases of spontaneous abortions and 400 cases of MTP were studied qualitatively and quantitatively for the occurrence of foeto-maternal leak. It was observed that the incidence of transplacental haemorrhage (TPH) was higher in the 2nd trimester as compared to the 1st trimester and more in induced abortions as compared to spontaneous abortions. Amongst the methods of 2nd trimester MTPs, the incidence of TPH, was lowest when prostaglandins were used and highest where aspirotomy was performed. In Rh Negative women, such a transplacental haemorrhage may be the starting point for Rh iso-immunization, hence the importance of determining the Rh Group in all women undergoing MTP and also the realisation that a higher dose of anti-D immunoglobulin is desirable to protect Rh negative women undergoing 2nd trimester MTP.

Introduction

In modern obstetric practice, the determination of the ABO and Rh Group of all pregnant women, is an accepted procedure. The awareness that Rh iso-immunization can be initiated following TPH, during pregnancy, labour and abortion had led to the widespread use of anti-D immunoglobulin prophylaxis in the prevention of Rh sensitization.

The Kleihauer technique provides a method for the qualitative determination of a foeto-maternal leak and a quantitative estimation to provide the guidelines for assessing the dose of anti-D to be administered to an individual case to forestall Rh iso-immunization.

Material and Methods

In the present study, the extent of foeto-maternal leak occurring after spon-

aneous and induced abortions was studied in 500 cases using Kleihauer technique.

100 cases of spontaneous abortion, consisting of 70 cases in the 1st trimester and 30 cases in the 2nd trimester were analysed for the occurrence of TPH, and this data was compared with similar data from a group of 400 cases of induced abortions consisting of 300 cases in the 1st trimester terminated by suction evacuation, and 100 cases of 2nd trimester in which different methods of MTP were employed.

Observation and Results

1. *Incidence of TPH:* The incidence of TPH was found to be higher in induced abortions as compared to spontaneous abortion in the present series as shown in Table I.

TABLE I
Incidence of TPH After Abortion

Type of abortion	Total No. of cases	TPH	
		No.	%
1. <i>Spontaneous abortion</i>			
— 1st trimester	70	9	12.8
— 2nd trimester	30	5	16.6
2. <i>Induced abortion</i>			
— 1st trimester	300	52	17.3
— 2nd trimester	100	34	34.0

Nanda *et al* (1986) had also observed a higher incidence of TPH in induced abortions and an increasing incidence of TPH according to the increased gestation size.

Bhuyan and Gogoi (1986) reported an incidence of TPH of 17.5% after spontaneous abortion, and 33.3% following induced abortions.

In the present series, an attempt was made to study the extent of fetomaternal leak both qualitatively and quantitatively in relation to the different methods of 2nd trimester abortions employed in this study.

2. The incidence of fetomaternal leak in relation to the method of termination

employed for 2nd trimester MTP is shown in detail in Table II.

The above Table shows that the risk of TPH is least when extra-ovular PGs was employed, and the highest incidence was observed when aspirotomy was used. Scraping of the uterine walls required during aspirotomy predisposed to a high incidence of fetomaternal leak.

3. Quantitative fetomaternal leak in relation to the method of 2nd trimester termination was estimated by counting the fetomaternal leak per 1000 maternal RBCs and computing it as the amount of fetal blood in millilitres, using Kleihauer formula. Details of this analysis are shown in Table III.

TABLE II
TPH Incidence in Relation to Method of 2nd Trimester MTP.

Method	No. of cases	TPH	
		No. of cases with TPH positive	% incidence
1. IAPG F ₂	18	5	27.7
2. IA saline	10	3	33.3
3. IA Urea + PGF ₂	10	3	33.3
4. E.O. PGF ₂	24	3	12.5
5. IM 15 methyl 15 PGF ₂	8	2	25.0
6. E.O. Ethacridine	16	4	25.0
7. Aspirotomy	14	14	100.0

TABLE III
Extent of Feto-maternal Leak in Relation to
Method of 2nd Trimester MTP.

Method of 2nd trimester MTP	Extent of FML in ml.
1. IPG F ₂	0.24 ml.
2. IA Saline	0.34 ml.
3. IA Urea + PGF ₂	0.24 ml.
4. E.O. PG ₂	0.16 ml.
5. IM Cabroporst	0.16 ml.
6. E.O. Ethacridine lactate	0.20 ml.
7. Aspirotomy	0.43 ml.

This above Table shows that the quantitative FML is highest following aspirotomy followed by intra-amniotic hypertonic saline followed by extra-ovular methods, and least when intramuscular prostaglandin was used.

Conclusion

It is important to emphasise the need for determining ABO and Rh Group of all patients undergoing MTP. IM Prosta-

glandin have the lowest potential for causing TPH and should be preferred for 2nd trimester MTP in Rh negative women. Aspirotomy and intra-uterine manipulations like curettage should be avoided in Rh negative women. All these women should be given anti-D injection following the procedure. It is better to give a higher dose of anti-D than the standard 100 microgram in Rh negative women where aspirotomy or curettage have been used.

Acknowledgements

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References

1. Bhuyan, J. and Gogai, M. P.: *J. Obstet. Gynaec. of India*, 36: 273, 1986.
2. Nanda et al: *J. Obstet. Gynaec. of India*, 36: 416, 1986.