

STUDY OF FOETUS, PLACENTA AND UMBILICAL CORD AFTER MIDTRIMESTER ABORTION BY INTRAAMNIOTIC ETHACRIDINE LACTATE

By

M. D. RAUT AND S. K. AGARWAL

Ethacridine Lactate has been used extensively by extraamniotic route for midtrimester MTP since Cohen first used it in 1946, but there is no published report about its intraamniotic use. The mode of action of this agent is not as clear as that of hypertonic saline in inducing abortion (Raut *et al*, 1984; 1985). It was intended to study the foetus, placenta and umbilical cord histologically, after MTP induced by intraamniotic ethacridine lactate and to find-out if this could throw any light on its possible mode of action.

Material and Methods

Medical termination of pregnancy was done by intraamniotic instillation of 150 ml ethacridine lactate (Emcredyl) between 14-20 weeks of pregnancy. The foetus with placenta and membranes and the cord were separately weighed. After gross inspection, the foetus was autopsied and a random portion was taken from lungs, liver, kidney, intestine, heart and spleen. Sections were also taken from placenta, cord and membranes. These were preserved in 10% formolsalin saline overnight, processed, stained and examined for any abnormality.

Observations

In all, one hundred cases had MTP by this method with 90 other cases by extra-

amniotic Emcredyl and hypertonic saline, which has been communicated in an earlier paper. The result of the study of 100 foetuses is analysed below.

Majority of the foetuses (80%) were born alive but died after a short while as would be expected. The weight of the foetus is outlined in Table I. The mean foetal weight was 299 ± 101.98 gms and the mean C.H. length was 17.33 ± 2.57 cms.

TABLE I

Foetal weight groups (Gms)	No. of cases	Per cent
Upto 99	20	20
100-199	8	8
200-299	18	18
300 and more	54	54
Total	100	100

Gross changes in the conceptus

Excepting yellow colouration of the foetuses, placenta and membranes and the cord, no other gross changes were seen.

Microscopic changes

All the foetuses, placentae, membranes and the umbilical cord were subjected to histopathological examination. Table II and Figs. 1, 2, 3 and 4 depict the lesions observed in them.

Discussion

In the present study, 80% of the foetuses were born alive. Manabe (1969) reported live birth in all his abortion cases

From: Department of Obstetrics & Gynaecology, V.S.S. Medical College, Burla-768 017, Sambalpur, Orissa.

Accepted for publication on 29-6-86.

TABLE II
Microscopic Lesions

Lesions	Organs of the foetus				Heart	Intes- tine	Pla- cents	Mem- brane	Cord
	Lungs	Liver	Kidney	Spleen					
1. Congestion	—	—	—	6	—	—	—	—	—
2. Haemorrhage	—	—	—	—	—	—	8	6	—
3. Oedema	—	—	—	—	—	8	—	—	—
4. Alveolar Distention	—	—	—	—	—	—	—	—	—
5. Cloudy swelling	—	—	4	—	—	—	—	—	—
6. Eosinophylic infiltration	—	—	—	6	—	6	—	—	—
7. Lymphocytic infiltration	—	—	—	—	4	—	—	—	—
8. Polymorph. infiltration	—	—	—	—	—	—	20	—	—

between 19-26 weeks of gestation. This fact indicates that the foetoplacental function is probably not grossly affected after the intraamniotic injection of ethacridine lactate and that labour process is more or less physiological.

There was no marked histological changes in either the foetus or placenta and membranes. The placenta showed haemorrhage in the intervillous space in 8% and gross polymorphonuclear infiltration in 20%. This obviously did not cause any disruption in placental function. Manabe (1969) was also of this view after extraovular ethacridine lactate.

Lewis and Phytus (1971) have shown oxytocic effect of ethacridine lactate by cat perfusion experiment. Manabe (1972) postulated increased myometrial sensitivity to oxytocin by its direct action. From the present study, no light could be thrown definitely on the possible mechanism of action of ethacridine lactate after intraamniotic instillation to cause

midtrimester abortion. Thus it may be said that this substance is either oxytocic or might increase the myometrial sensitivity to oxytocin leading to a more physiological process of labour after intraamniotic instillation. It is associated with substantially less maternal morbidity.

Acknowledgement

The authors gratefully acknowledge the permission accorded by the Superintendent, VSS Medical College Hospital, Burla for permission to use the hospital records in preparation of this paper.

References

1. Lewis, B. V. and Phytus, A.: *J. Obstet Gynec. Brit. C'wealth*, 78: 383, 1971.
2. Manabe, Y.: *Am. J. Obstet. Gynec.* 105: 132, 1969.
3. Manabe, Y.: *Obstet. Gynec. Survey* 27: 701, 1972.
4. Raut, M. D., Dash, S. and Mohanty, J.: *J. Obstet. Gynec. Ind.* 34(3): 414, 1984
5. Raut, M. D., Panda, R. K. and Mohanty, J.: *J. Obstet. Gynec. Ind.* 35(5): 865 1985.

See Figs. on Art Paper I