

ELECTRO-ENCEPHALOGRAPHIC CHANGES AFTER INTRA-AMNIOTIC PROSTAGLANDIN AND HYPERTONIC SALINE FOR MID-TRIMESTER ABORTIONS

by

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SUMMARY

Electroencephalographic recordings were done in 25 cases of mid-trimester pregnancy termination with intra-amniotic 20% saline and 28 cases of intra-amniotic prostaglandin F₂ alphamethylester, before induction, 4 hours after induction and 4 hours after abortion. Two of the saline group showed episodic activity on hyperventilation in the postinjection EEG. Two of the PG group showed epileptic features in the postinjection EEG, 3 showed episodic activity on hyperventilation, and 1 showed periodic delta activity in the postinjection EEG recordings. The preinjection and post abortion EEG recording were normal in all cases.

Introduction

Electroencephalographic changes after intraamniotic prostaglandin (PG) and hypertonic saline were studied by Lyneham and Shearman in 1973. Owing to the great need for such procedures in the developing countries, it was deemed essential to study such changes further. The present study was done with a view of establishing such changes inherent in these procedures, if any.

Material and Methods

Twenty-five patients were given intra-amniotic 150-200 ml of 20% saline without

removal of more than 5 ml of amniotic fluid, through a 20 gauge needle under local anaesthesia. Twenty-eight patients were given intraamniotic 15-S-15 methyl prostaglandin F₂ α , 2.5 mg by the same technique as for saline.

All patients were 16-20 weeks pregnant from the last menstrual period. Their ages ranged from 16 to 45 years. None had a history or family history of epilepsy. None from the saline group received any additional drugs. Patients from the PG group received prochlorperazine for vomiting and lomtil (diphenoxylate hydrochloride plus atropine) for diarrhoea.

Electroencephalogram recordings were done for all patients first before intra-amniotic injection, second 4 hours after injection and third 4 hours after abortion.

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Accepted for publication on 27-4-84.

Results

Table I shows E.E.G. changes seen 4 hours after instillation of hypertonic saline and the prostaglandin intraamniotically.

Discussion

Changes in the EEG recordings were noted in 2 of 25 patients after intraamniotic 20% saline infusion, in the form of

TABLE I

E.E.G. Changes With Intraamniotic Hypertonic Saline and Prostaglandin, 4 Hours After Instillation

	Episodic activity	Epileptic features	Delta activity	Total abnormal	Total number
Hypertonic saline	2	Nil	Nil	2	25
Prostaglandin	3	2	1	6	28

One patient in the saline group, aged 15 years showed increase in activity on hyperventilation and some episodes of sharp and slow waves, four hours after saline infusion, but not before infusion or after abortion 24 hours later. Another patient aged 18 years showed episodic activity on hyperventilation in all 3 EEG recordings, with the recording done 4 hours after infusion showing prolonged episodes of the same activity. All other EEG recordings were normal.

One patient aged 20 years in the PG group showed epileptic features and episodic activity on hyperventilation in the post-injection EEG. Another patients aged 22 years showed epileptic features in the alpha-range in the post-injection EEG. The pre-injection and post-abortion EEG recordings were normal in both the patients. One patient aged 21 years had periodic delta-activity in the post-injection EEG only. Three other patients aged 17, 20 and 22 years respectively showed episodic activity on hyperventilation in the post-injection EEG recordings, but not in the pre-injection or post-abortion recordings.

episodic activity on hyperventilation (Fig. 1).

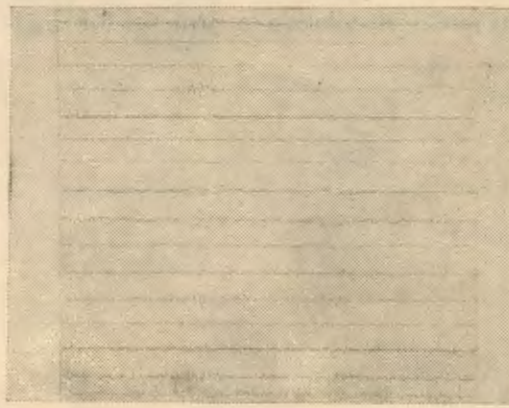


Fig. 1.

Episodic activity on hyper ventilation.

Similar activity was seen in 3 patients in the PG group in the post-injection recordings only. Furthermore, 2 of these 28 patients showed wave and spike form epileptic activity in the post-injection recordings only (Fig. 2).

Thus following injection of PG into the amniotic cavity, changes occurred in the EEG recordings which were transitory in nature, but could be significant in view of

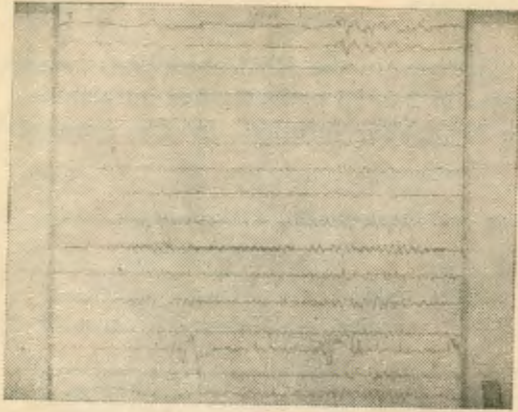


Fig. 2
Wave and spike activity.

the wave and spike activity seen in 2 cases.

One cannot deny the procedure of intra-amniotic hypertonic saline or prostaglandin instillation to patients for mid-

trimester pregnancy termination, until a larger series confirms a true relationship between these procedures and EEG changes. In the meantime, one would like to be more careful in patients with a history of convulsions in the past or in the family, suggestive of epilepsy.

Acknowledgements

We thank the Dean, K.E.M. Hospital and Seth G.S.M. College for allowing us to publish the hospital data.

References

1. Lyneham, R. C., Low, P. A., McLeod, J. G., Shearman, R. P., Smith, J. D. and Korda, A. R.: Convulsions and electroencephalogram abnormalities after intra-amniotic prostaglandin F₂. *Lancet* 2: 1003-1005, 1973.