

## ISOXSUPRINE IN PREMATURE LABOUR

by

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Premature labour and consequent prematurity is one of the major contributory factors towards perinatal mortality. Improved care of the premature no doubt has helped to lower the perinatal mortality but lowering of incidence of premature labour itself obviously is a better way of dealing with the problem. The current methods, bed rest, sedation, hormone therapy and closure of incompetent cervix have beneficial effects in some cases but still leave much scope for improving results in premature births of unknown aetiology.

Isoxsuprine (2 - (Phenoxy - 2Pro Pylamino)-1- (P-Hydroxy phenyl)-1- (propanol (HCL)), a new compound of phenethanolamine group of drugs, a commonly known vasodilator, has marked relaxant action on smooth muscle with minimal side-effects. Its strong musculotropic, antispasmodic effect on uterine myometrium of laboratory rats was first demonstrated by Brucke *et al.* Lish and his co-workers later demonstrated that it effectively depresses the uterine activity of laboratory animals inde-

pendent of the hormonal status of the uterus, including the pregnant uterus. They also demonstrated its sustained relaxant effect on isolated strips of human uterus.

Clinical study of its effects on human uterus during labour was first demonstrated by Bishop and Woutersz. They have concluded that isoxsuprine is effective in the arrest of uterine contractions in large percentage of patients in premature labour. Later Bravo and co-workers after their clinical studies concluded that it has a clear inhibiting effect on contractility of pregnant uterus, particularly in early pregnancy.

### *Selection of cases*

In the present series, 25 cases of premature labour were studied. These ranged from 22 to 34 weeks gestation. Three cases were in the second trimester (12%) and 22 were in the third trimester (88%). In all cases uterine contractions were felt, cervix had started showing signs of onset of labour and membranes were intact. Duration of pains varied from 3 to 72 hours. Os was closed in 5 cases (20%) and dilated (maximum up to 3 fingers) in 20 cases (80%). Leaking was present in two cases and 'show' in two cases.

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*Dosage and administration of drug*

In almost all cases injection gardenal 200 mg., intramuscular, was given prior to administration of the drug. The usual dose employed and found most satisfactory was 30 mg. of Isoxsuprine (3 ampoules of Duvadilan) in a pint of 5% glucose given as an intravenous drip, rate being maintained between 25 to 30 drops per minute. In one case 40 mg. was tried three times a day but the patient developed sudden hypotension and the drip had to be discontinued when only half a pint had run in, but meanwhile pains had subsided. Drip was followed up by Isoxsuprine 10 mg. orally, for 3 days. In 4 cases the drip had to be repeated as follows:

In the first case, the drip was followed by intramuscular injection of isoxsuprine 10 mg. twice a day on the 2nd day and 10 mgs. once a day on the 3rd day. On the 4th day patient again started pains and the drip was repeated. Pains subsided. After one month, at gestation of 36 weeks, she delivered a baby weighing 2 kg.

In the second case, the drip had to be repeated after 24 hours, pains subsided and patient was discharged. She was readmitted with pains after 10 weeks at 34 weeks gestation and again Isoxsuprine was given in drip. Patient had a full-term normal delivery.

In the third case, the drip was repeated after 24 hours and pains subsided.

In the fourth case, the drip had to be repeated after 5 days and pains subsided. After 25 days pains restarted with bleeding per vaginam there

was no response to sedatives. Isoxsuprine drip was given but patient had severe rigors and drip was discontinued. She delivered premature twins of 24 weeks gestation.

In one case the drug was administered intramuscularly. Two injections of 10 mg. each. given at 4 hourly interval. Pains subsided.

*Results*

Out of 25 cases, pains completely subsided in 20 cases (80%) and os started reforming. In three cases the effect on uterine contractions was transitory and pains restarted a few hours after removing the drip resulting in premature deliveries. In two cases it had no effect.

*Complications*

Twenty-one cases had no complications. Two had tachycardia with hypotension. One had tachycardia. One had nausea and vomiting. One had shivering. None of them showed any effect on the foetus.

*Summary and Conclusion*

Isoxsuprine, a commonly known vasodilator, was tried as a myometrial muscle relaxant on a series of 25 cases of premature labour. It was found effective in postponing the labour significantly in 80% of the cases. In our opinion it is an important and welcome addition to methods of control of premature labour.

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