THE EFFECT OF INTRAVENOUS THERAPY DURING LABOUR ON OUTCOME OF PREGNANCY, IN HOT CLIMATES

by

MUKESH RAGHAV

SUMMARY

'Misfortunes never come singly', keeping this in view the present study was undertaken with the aim to study the effect of syntocinon in already hyponatraemic mothers on the newborn. Sodium level in the fetuses of mothers who had intravenous fluid during labour was significantly lower than the fetuses whose mothers did not have intravenous fluid during labour, a non significant lowering was observed when dextrose normal saline (5%) was used as vehicle. Significantly low one minute apgar score, significant hypotonia and in 40% infants sluggish neonatal functions were observed in group whose mothers received dextrose 5% infusion with or without syntocinon. Present study concludes that preferably syntocinon to be given in dextrose normal saline (5%) as vehicle.

Introduction

In deserts, where temperature range between 40-50°C in summer, the amount of sweat excreted by a woman already exerting for labour can not be exactly judged but definitely there is loss of water accompained by loss of sodium and as a result low levels of serum sodium.

In such women infusion of dextrose 5% solution with or without Syntocinon (Sandoz), which exerts anti-diuretic effects leads to further reduction in the levels of maternal and cord serum sodium and ultimately hyponatraemic foetus.

In total 175 pregnant women were studied, who delivered normally. Out of this 50 served as control, in whom no intravenous therapy was given during labour. Intravenous Syntocinon was infused in 125 cases in different solvents after artificial rupture of membranes. Maternal and cord serum sodium was estimated by flame photometer and outcome of pregnancy was assessed.

Mean ± S.E. levels of maternal serum sodium in control group was 152.56 ± 2.80 m.Eq./lt., the levels of cord serum sodium were nearly the same. A significant fall in serum sodium level (mean ± S.E. 113.2 ± 2.38 m.Eq./lt.) was observed on infusing dextrose 5% on an average 770 ± 35.90 mls., in 1.83 ± 0.20 hours. Addition of Syntocinon in this media and infusing at the rate of 3.95 milliunits/minute for 3.41 ± 3.5 hours, a further reduction in Serum Sodium level

From: Ex-Senior Registrar, Deptt. of Obstetrics and Gynaecology, S.P. Medical College, Bikaner, 334 001.

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was observed (mean ± S.E. 99.6 ± 1.01 m.Eq./lt.). Sodium levels in the foetus of mothers who had intravenous fluid during labour were significantly lower than the foetuses whose mothers did not have intravenous fluid during labour (Dahlenburg *et al* 1980 and Spencer *et al* 1981).

Lowered serum sodium levels occurs in response to anti-diuretic effect of Syntocinon and temporary hyperglycaemia. Rise in only glucose levels causes a rise in plasma osmolarity and as a result water enters in extra-cellullar fluid and thus lower sodium concentration and secondly loss of sodium through sweat, not result being hyponaraemia.

A non significant level of serum sodium (mean ± S.E. 140.8 ± 3.72 m.Eq./lt.) was observed after infusing 690.0 ± 39.99 mls. of dextrose normal saline 5% for 3.32 ± 0.19 hours with 3.6 ± 0.18 milliunit/minute, the rate of infusion of Syntocinion.

One minute apgar score was significantly low in the infants whose mothers received dextrose 5% with or without Syntocinon, while with dextrose normal saline 5% it was not so. Five minute apgar score was non significant in both the groups.

Significant hypotonia and in 40% of infants sluggish neonatal functions were observed in group whose mothers received dextrose 5% infusion with or without Syntocinon, while with dextrose normal saline 5%, the infants were having better neonatal functions. The present communication concludes that in the hot seasons the intra venous infusions with or without Syntocinon is to be given in dextrose normal saline inspite of dextrose 5%.

References

1. Dahlenburg, G. W., Burnell, R. H. and Braybrook, R.: Brit. J. Obstet. Gynaec. 87: 519, 1980.
2. Spencer, S. A., Mann, N. P., Smith, M. L., Woolfson, A. M. J. and Benson, S.: Brit. J. Obstet. Gynaec. 88: 480, 1981.