Induction of labour in the presence of ruptured membranes with prostaglandin E_2 gel

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Summary: The study shows the safety and the efficacy of labour induction with prostaglandin E_2 gel. By combining an initially conservative approach with later induction by PGE_2 a vaginal delivery rate of 96.8% was achieved.

Vaginal prostaglandins have been used for induction of labour in the presence of ruptured membranes with favourable results. (Ekman-Ordeberg *et al.,* 1985, Day *et al.,* 1985). We report the use of prostaglandin E_2 gel (PGE_2) for this purpose after an initially conservative approach to management.

PATIENTS AND METHOD

163 women over 37 weeks gestation were admitted to Gloucestershire Royal Hospital with rupture of membranes without contractions.

Spontaneous rupture of membranes was diagnosed by pooling of liquor and a positive nitrazine test during sterile speculum examination on admission.

In the absence of pyrexia, if presentation was cephalic, the liquor clear and gestation greater than 37 weeks in a singleton pregnancy, the patient was transferred to an ante-natal ward to await events. A short cardiotocographic tracing was performed and a high vaginal swab taken.

Labour was induced at 6am the following morning in those women in whom spontaneous rupture of membranes had occurred more than 12 hours earlier. Patients who had ruptured membranes less than 12 hours earlier were allowed an additional 24 hours to await spontaneous contractions.

Labour was induced by inserting 2mg of PGE_2 gel into the posterior fornix.

The dose was repeated 4 hours later unless the patient was in active labour with cervical dilatation increased by 3 cm or more from the initial assessment.

RESULTS

109 (67%) of women went into spontaneous labour prior to induction. Only 2 women went into spontaneous labour between 24 and 36 hours after rupture of the membranes.

54 women were induced. Bishop's Score of the cervix varied from 2 to 11 (mean 6.1 SEM 0.3). The mean induction - delivery interval in primigravida was 13.4 hours, and 11.4 hours in multigravida. 19 patients required a second dose of PGE_2 gel. There were 42 normal vaginal deliveries, 8 instrumental deliveries

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and 4 Caesarean Section in the group who received PGE_2. The Caesarean Sections were performed for failure to progress and all were thought to have cephalo-pelvic disproportion. The use of PGE_2 gel was not linked to acute fetal distress requiring immediate delivery.

In three women high vaginal swabs grew beta-haemolytic streptococci, one of whom was induced. There were no case of overt fetal or maternal sepsis.

DISCUSSION

This study agrees with that of Kappy *et al.* (1979) that the incidence of maternal or neonatal infection is not increased if patients are treated conservatively for up to 36 hours.

67% of women went into labour within 36 hours of rupture of the membranes, most within the first 24 hours. It is suggested that no intervention is indicated in this period unless other medical or obstetric reasons warrant immediate action.

If labour is not established this study shows the safety and efficacy of induction with PGE_2 gel. By combining an initially conservative approach with later induction by PGE_2 gel we achieved a vaginal delivery rate of 96.8% with no increase in infectious morbidity.

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