

## GAS GANGRENE FOLLOWING INTRAUTERINE INJECTION OF GLUCOSE FOR INDUCTION OF LABOUR

by

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Intrauterine death or foetal abnormality presents a real problem to the obstetrician. If pregnancy is left alone, sooner or later the patient goes into labour on her own. But in some cases labour fails to commence. In such cases whether to leave the patient alone to carry on an unproductive pregnancy or to try and induce labour is a problem because the methods available for the induction of labour are very unreliable. Dead products of conception may produce afibrinogenaemia as well as subsequent myometrial fibrosis or so called chronic metritis.

Various attempts have been made to find out safe and reliable methods for induction of labour. Recently intra-amniotic injection of hypertonic glucose has been proved to be a safe and reliable method.

Wood *et al.* (1962) reported very good results in 22 cases with intrauterine injection of 200 c.c. of 50 per

cent glucose. Labour was successfully induced in all patients, the duration of pregnancy varying from 28 to 40 weeks, and the duration of foetal death up to five weeks. They did not come across any serious complications.

Brosset (1958) reported successful induction of therapeutic abortion with 50 per cent dextrose in 51 out of 54 patients. He believed that with this injection there was disturbance of secretion of hormones of the ovum and this resulted in the expulsion of products of conception.

Bengtsson and Csapo (1962) used hypertonic saline (20%) and they believed that induction was due to diminished placental progesterone production. The induction of therapeutic abortion by hypertonic saline in 98 cases (Fuchs, 1961; Bengtsson and Csapo, 1962) and hypertonic glucose in 51 cases (Brosset, 1958) confirms the effectiveness and safety of this technique as a method of induction of labour.

Bengtsson and Csapo (1962) and Wood *et al.* 1962) did not report any serious complications. But in a letter to British Medical Journal, Sir John

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Peel (1962) reports a case of fatal septicaemia with use of uroselectan B and hypertonic glucose solution. This was before the use of antibiotics. Briggs (1964) has reported a fatal case of *Clostridium welchii* infection following use of hypertonic glucose. The present case reported here also died of *Clostridium welchii* infection after the induction of labour with intrauterine injection of 50 per cent glucose.

#### CASE REPORT

Mrs. S. K., aged 30 years, para I, was admitted on 25th February 1964, with history of 42 weeks of amenorrhoea. She complained of absence of foetal movements for 20 days prior to her admission. There was history of toxæmia in the 8th month of her pregnancy. On abdominal examination, uterus was 40 weeks' size and relaxed; foetal heart sounds were absent. Her blood pressure was 140/90 mm. Hg. There was no oedema and urine did not show presence of albumin.

On vaginal examination os was found to be tightly closed.

#### Investigations

X-ray of abdomen showed foetus in transverse lie and positive Spalding's sign. Other routine investigations did not show any abnormality. Her bleeding and clotting time were within normal limits. As there was an intrauterine death of foetus it was decided to induce labour.

Patient had already taken 25 tablets of neo-clinestrol, Medical induction with 1 oz. castor oil, and quinine 5 grains three times a day was tried without success.

On 27th February 1964, stripping of membranes per vaginam was tried but, as os was tightly closed, it could not be done. Intravenous pitocin 2.5 units in 500 c.c. was also given that day but without any result. It was repeated with 5 units in 500 c.c. on 29th February 1964 (in the morning, without any effect.

As these methods failed to induce labour, abdominal amniotomy was done on 29th February 1964 at 1-30 p.m. Hardly 5 c.c.

of liquor was removed. Then 200 c.c. of 50 per cent glucose was injected in the amniotic cavity. This too failed to bring on labour pains. The patient was quite comfortable and moving about.

Next morning on 1st March 1964 at 7 a.m. the patient complained of feeling chilly. Her temperature was 98.4°F. and pulse 100 per minute. At 7-45 a.m. she complained of pain in chest and breathlessness. Her blood pressure was 110/70 mm. Hg. A few occasional rales could be heard on the left side of chest. On vaginal examination os was tightly closed and there was blood-stained discharge. She was given oxygen and an injection of 100 mg. pethidine.

At 8-45 a.m. the patient became very restless and cyanosed and her pulse became very feeble. She expired at 9 a.m. on 1st March 1964. Post-mortem examination was done at 11-30 a.m. the same day. Gross clinical crepitus was noted in all organs and subcutaneous tissues. All the organs were floating in water. There was gas in all the chambers of heart. Gas was seen in all blood vessels. Histopathological and bacteriological examination showed *Clostridium welchii* infection.

#### Discussion

It is obvious that the infection could not have been introduced per vaginam as the amniotic membranes were not ruptured. One possibility is that the organisms were already present in the vagina and necrotic membranes and the dead foetus and rapid spread took place of the auto-infection after the injection of glucose. Other possibility is that the infection might have been introduced through the abdominal injection of glucose. However, *Clostridium welchii* could not be cultured from the glucose which was used for injection.

Thus to accept intrauterine injection of glucose as a safe method for induction of labour, one might have to pay such a high price. Use of

hypertonic saline instead of hypertonic glucose is perhaps a safer method for induction of labour protecting the patient in every case with antibiotics and injections of anti-gasgangrene serum. Fuchs (1961) and Bengtsson and Csapo (1962) advocate use of hypertonic saline. Not a single fatal case is reported with use of hypertonic saline. Thus larger series are required to prove this method to be safe.

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