

To the Editors:

A cautionary tale: intra-amniotic injection of methylene blue

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A 31-year old housewife married for 30 months was investigated for primary subfertility. She was a healthy woman without a notable past medical history. Her husband too was healthy with a normal seminal fluid analysis. She was prescribed clomiphene citrate 50 mg in May 1996 and 100 mg in June 1996, but this was not successful. She had undergone examination under anaesthesia, dilatation and curettage and a tubal patency test by gas insufflation, which were all normal.

She had regular menstrual periods. She had a normal menstruation on 13.12.96 which lasted three days. Then she changed her obstetrician, who performed a diagnostic laparoscopy and dye test on 5.1.97 with an intrauterine injection of 20 ml 0.2% aqueous solution of methylene blue.

That was the 23rd day after the commencement of her last menstrual period. Laparoscopy revealed that she had normal internal genital organs and that both fallopian tubes were patent. She missed the next period and visited the University Obstetrics Unit on 26.01.97. HCG B subunit was present in her urine. After counselling the patient, the pregnancy was allowed to continue. The antenatal period was uneventful. Ultrasound examination at 22 weeks of amenorrhoea confirmed the dates. A normal baby girl weighing 3.1 kg was delivered by emergency lower segment cesarean section for fetal distress on 22.9.97 at 40 weeks and 2 days of amenorrhoea. Apgar score at 1 min was 9. The baby girl was examined and no abnormalities were found. She was discharged on 26.9.97 following an uneventful post-partum period and was advised to visit the postnatal clinic in 6 weeks.

Letters

Methylene blue is a urinary germicide and has vasoconstrictor properties. It is used in many ways in obstetrics as a diagnostic dye; as an intra-amniotic injection to provide a marker in amniocentesis for multiple pregnancies (20); as an intra-amniotic injection in rupture of membranes (5). Untoward neonatal effects of intra-amniotic administration of methylene blue have been reported, eg. fetal intestinal obstruction (multiple ileal occlusion) and jejunal atresia (2,6), haemolytic anaemia, methemoglobinaemia and hyperbilirubinaemia (7).

Diagnostic laparotomy is commonly performed for the diagnosis of subfertility. In this procedure methylene blue is used as a diagnostic agent to check tubal patency by injecting it into the uterine cavity *via* the cervix. In this case, methylene blue was injected on the 23rd day of amenorrhoea. After a literature search we were able to counsel the patient to continue the pregnancy.

We report here that inadvertent intrauterine injection of methylene blue very early in pregnancy did not effect the embryo. It is safe to use methylene blue for intrauterine injection to check tubal patency in the first half of the menstrual cycle. In fact any invasive investigation, treatment or surgical procedure in a woman of child bearing age should be done in this half of the cycle if at all possible.

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References

1. Twickler DM, Gilstrap LC, Little BB. Use of diagnostic agents during pregnancy. *Drugs in pregnancy*. New York: Elsevier; 1992: 327.
2. Nicolini U, Monni G. Fetal intestinal obstruction and jejunal atresia in babies exposed *in utero* to methylene blue. *Lancet* 1996; **336**: 1258.
3. Inadvertent intrauterine injection of methylene blue in early pregnancy. *New England Journal of Medicine* 1981; **304**: 1427.
4. Cowelt R M 1976. Untoward neonatal effect of intra-amniotic administration of methylene blue. *Obstetrics and Gynaecology* 1976; **48**: 74s.
5. Forche BI. The methylene blue baby. *New England Journal of Medicine* 1989; **320**: 1756-7.
6. Van der Pol JG, Wolf H, Boer K, Trehers PE, Leschot NJ, Hey HA, *et al*. Jejunal atresia related to the use of methylene blue in genetic amniocentesis in twins. *British Journal of Obstetrics and Gynaecology* 1992; **99**: 141-3.
7. Plunkett GP. Neonatal complications. *Obstetrics and Gynaecology* 1973; **41**: 476-7.