

Case report

Serum salicylate levels in a breast fed infant

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SUMMARY All drugs should be given with caution to pregnant or breast feeding women. Recent concern about the role of salicylates in the aetiology of Reye's syndrome has prompted the DHSS to restrict the use of aspirin in children. The case of a 9 week old breast fed infant whose serum contained 0.47 mmol/l of salicylate is reported. Her mother was taking aspirin 2.4 g/day, and it is concluded that salicylates must not be taken by breast feeding mothers.

Case report

A 29 year old woman with polyarticular seronegative adult Still's disease of seven years' duration presented to her general practitioner with abdominal swelling. She had been oligomenorrhoeic since starting prednisolone when first diagnosed (9/9.5 mg alternate days), and amenorrhoeic since the addition of corticotrophin (ACTH; 40 U intramuscularly, alternate days) 17 months before this visit. A pregnancy test was positive, and on referral ultrasound examination was consistent with a fetus of 26 weeks' gestation. At 35 weeks the fetus was small, and she was hospitalised. At 36 weeks' gestation her membranes ruptured spontaneously and fetal distress necessitated an emergency caesarian section.

The preterm infant thrived, except for a period of neonatal jaundice requiring phototherapy. Mother and baby were discharged two weeks after delivery. The mother had continued her maintenance anti-rheumatic medication, including enteric coated aspirin 2.4 g/day, throughout her confinement. Attempts to withdraw aspirin had been unsuccessful because of a persisting pyrexia (one of the features of her disease), and alternative anti-inflammatory drugs were ineffective.

At follow up seven weeks later both were well, the child taking 50% breast milk and 50% commercial formula feeds. Aliquots of maternal blood (10 ml), breast milk (10 ml), and infant's blood (0.4 ml)

were assayed for salicylate concentration (Quantase salicylate assay, Porton Products).

Breast milk lipids interfered with the assay, but maternal and infant serum samples contained 1.63 mmol/l and 0.47 mmol/l of salicylate respectively.

Discussion

Aspirin is a polar, acidic drug that penetrates lipids poorly, but it has been estimated that a breast fed infant would receive up to 21% of maternally ingested aspirin.¹ Neonatal metabolism of aspirin is similar to that of the adult, with formation of glycine and glucuronic acid conjugates, but the half life is more than doubled (seven hours or greater) because of poor renal function in the neonate, decreased protein binding, and immaturity of hepatic enzyme systems.²

It is recommended that aspirin is not prescribed in the last trimester of pregnancy,³ and case reports of increased maternal mortality, lengthening of pregnancy, decreased birth weight, neonatal purpura, frequent intracranial haemorrhage, premature closure of the ductus arteriosus with consequent heart failure, and persistent pulmonary hypertension have been recorded.^{3,4} The passage of aspirin postnatally to the infant in breast milk is well recorded^{1,2} and has been shown to precipitate an acute metabolic acidosis in a 16 day old child.⁴

The British National Formulary states that continuous salicylate therapy should be given with caution to nursing mothers because of the risks of rashes and hypoprothrombinaemia in the infant,⁵ but in view of the recent update from the CSM

Accepted for publication 8 April 1987.

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ruling that 'aspirin should not be given to children under 12 years'⁶ we feel that continued breast feeding must be an absolute contraindication to aspirin prescription and that products for sale over the counter should carry appropriate warnings for pregnant and breast feeding women.

References

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