

TEETH DISCOLORATION AND ENAMEL HYPOPLASIA CAUSED BY ERYTHROMYCIN

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The ingestion of tetracycline, be it by the mother during the antenatal period, or by the infant in the immediate post- and neonatal periods, may produce pigmentation and enamel hypoplasia in the primary and secondary dentitions of the child.³⁻⁵

According to Wallman and Hilton⁶ tetracycline may now be the commonest cause of enamel hypoplasia in young children. They suggest that oxytetracycline does not produce the same effect as tetracycline, but did not have any information regarding chlortetracycline or demethylchlortetracycline. The greater the total dose of tetracycline/kg. of the birthweight, the greater was the change.

There seems to be no reason to expect that the permanent teeth will be affected by tetracycline given in the neonatal period, but pigmentation might follow if the drug is given between 2 months and 2 years of age, when the permanent teeth are being calcified.⁷

Mason⁸ raises the question of discoloration of the teeth following administration of tetracycline on a long-term basis for various conditions, particularly cystic fibrosis in children. The author points out the obvious cosmetic disadvantages which may ensue and also suggests that it is unjustified to regard the incorporation of foreign material into the growing skeleton as innocuous.

Swallow⁷ reports a case of a 1-year-old girl who developed a yellow discoloration of her teeth. Her mother had been diagnosed as having suffered from myeloblastic-monocytic leukaemia in the fourth month of pregnancy. In addition to cytotoxic drugs (6-mercaptopurine), she also received blood transfusions and 5 G of tetracycline daily. The administration of tetracycline was replaced after 17 weeks by 1 mg. of erythromycin daily and novobiocin, 1 G daily.

The present report is that of a 20-month-old male child who has discoloration and enamel hypoplasia of most of his primary dentition (Fig. 1).

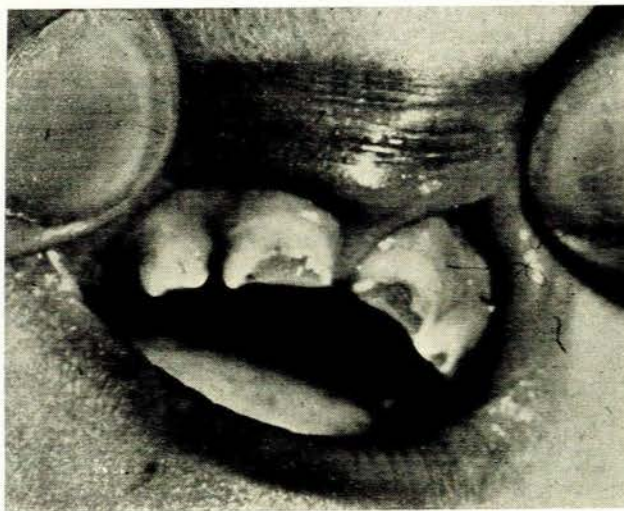


Fig. 1. Discoloration and enamel hypoplasia of primary dentition in a 20-month-old child.

At the 4th month of gestation the mother developed a clinical and pathological condition diagnosed as idiopathic nephrosis. The treatment consisted of complete bed rest and salt-free diet. In addition she was given 750 mg. of erythromycin daily throughout the rest of her pregnancy. 500 mg. of chlorothiazide was taken 3-4 times weekly together with Kalisol (500 mg. of potassium bicarbonate and 300 mg. of potassium acid tartrate).

The infant was born normally at 37 weeks, weighing 5 lb. 13 oz. He was not breast fed, and did not suffer any neonatal jaundice. He did not receive any medication after birth or in the neonatal period.

DISCUSSION

Apart from neonatal jaundice, there must be few conditions, if any, which cause such staining of the teeth in infants, and dietary insufficiency is now rare as a cause of defective enamel.

The fact that members of the tetracycline group of drugs are laid down in the skeletons of animals has been known for some years.¹ No serious deleterious effects have so far been reported.

Wallman and Hilton⁶ were fortunate in obtaining extracted teeth and they were able to prove that the tetracycline molecule was present in these teeth. It has not been possible to do this study with the present case, but in the absence of any other known cause for pigmentation and hypo-enamel formation, it is assumed that erythromycin is the causative factor.

The management of patients requiring tetracycline groups therefore present a problem. This, however, has been well summarized:² 'In making a decision as to whether to use tetracycline for long-term administration, the therapeutic value of the drug is obviously relevant, particularly in relation to whether equally valuable alternative medicaments are available. For many conditions there is no satisfactory alternative to tetracyclines, and it may be worth while to accept a possibility of discoloration of the teeth, or whatever theoretical disadvantages which may be postulated from the deposition in the bones, for the value of the unquestionable benefits of the treatment.'

SUMMARY

1. The case of discoloration and hypoplasia of the enamel in primary dentition in a 20-month-old male child is reported.
2. The literature is reviewed.
3. There has been no previous report of discoloration and hypo-enamel of teeth being a complication of erythromycin administration during pregnancy. This however must be assumed as being possible, and due regard be paid to its danger.

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