TOXIC EFFECTS OF PHENOTHIAZINE DERIVATIVES GIVEN FOR VOMITING IN CHILDREN

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Many children with tonsillitis and upper respiratory infections vomit. Presumably they swallow infected secretions and gastritis ensues, and if these infected secretions pass on their way, an enteritis follows. However, in many cases pylorospasm would appear to limit the infection to a gastritis, and diarrhoea does not follow. In these cases vomiting may be intractable and prolonged, so that the parenteral correction of fluid loss becomes necessary.

The general practitioner is often faced with this problem and finds it necessary to prescribe specifically for the vomiting. The phenothiazine group of drugs are anti-emetic and commonly ordered for this purpose.

In the past 6 months, 3 cases have come to my notice in which dramatic neurological complications have occurred and necessitated admission to hospital. The doses given have not always been excessive, and it has not always been clear whether idiosyncrasy has been responsible, or whether dehydration and oliguria have led to an unusually high concentration of the drug. One case had infective hepatitis. In any event the sequelae have been alarming, though short-lived and there was no mortality.

MIMS (September 1966) lists 17 phenothiazine derivatives of which the most commonly used would seem to be Stemetil, Trilafon, Sparine, Stelazine, Largactil and Melleril.

Case Histories

Case 1. A male infant, aged 10 months and weighing 25 lb., with an upper respiratory infection, was given Trilafon, 1·6 mg. intramuscularly, for persistent vomiting and upper respiratory infection. Six hours later he became rigid with neck retraction amounting almost to opisthotonos. Babinski responses were flexor.

At 9 hours after injection cog-wheel rigidity was observed, and after 21 hours he was well and crawling round the hospital cot.

Case 2. A 10-year-old male, weighing 80 lb., with an upper respiratory infection. In the 36 hours before the onset of neurological disturbances, he had received 125 mg. Stemetil rectally and 62·5 mg. Largactil by mouth. He presented with oculogyric crises,[1] and his Babinski responses were both extensor. Eight hours later the crisis ceased, and 18 hours later the Babinski responses were again flexor.

Case 3. A 4½-year-old female, weighing 40 lb., with infective hepatitis was given 10 mg. Stemetil by mouth on the preceding day and 5 mg. on the day of onset of symptoms. She developed opisthotonic attacks occurring about every 30 minutes. Babinski responses were flexor. No further attacks occurred after 6 hours and she was quite well the next day.

DISCUSSION

If it is dangerous to give phenothiazine derivatives when dehydration or liver failure are present, what are the alternatives? Before giving the drug is it sufficient to enquire about oliguria? Probably not, since the child may be on the brink of it, and in any event it is difficult to judge this in young children.

Probably the best treatment of vomiting due to gastritis is a short period of starvation. Rest has always been a cardinal principle in the treatment of inflammation, and what better way than by keeping the stomach empty? To distend the irritable stomach with any fluid is to invite its contraction, which in the presence of pylorospasm, will result in vomiting.

No child will suffer from a short period (12 to 24 hours) of starvation, if diarrhoea is not present. If after that time vomiting has ceased, feeding with small quantities of fluids (1 - 2 oz.) given hourly, may be commenced and are usually retained. The quantities may then be increased and the frequency of feeding diminished.

In the acute stage, antibiotic treatment is best given by injection to ensure its entry into the body.

REFERENCE

1. Shirkey, H. C. (1966): *Paediatric Therapy*. St. Louis: C. V. Mosby.