Toxic Damage to the Optic Nerve Caused by Iodochlorhydroxyquinoline (Enterovioform)

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In a child, admitted in the Sofia Children's Hospital on the diagnosis of Hirschsprung's disease, an optic nerve atrophy was found in both eyes, associated with nystagmus, which according to the mother had begun at the age of 18 months.

The optic nerve atrophy was unmistakable, and electrophysio-logically demonstrable; the ERG was normal ODS, but the VER were absent. Nystagmography (van Vliet, Dijkzigt Teaching Hospital) disclosed a purely horizontal and undulating nystagmus of 4/sec. This type of nystagmus is suggestive of a brain stem lesion. Because a toxic neuropathy was considered possible, the mother was questioned about drug therapy. It was found that for obscure reasons, the patient had been receiving a large amount of Enterovioform (1,279 g between the age of 18 weeks and the age of 44 months). Enterovioform is one of the halogen-substituted 8-hydroxyquinolines. In drug descriptions, this substance is described as being quite harmless. The absorption of these substances obviously had not been properly studied.

In 1966, two publications discussed the probable toxicity of halogen-substituted 8-hydroxyquinolines, which are given in large doses for the treatment of a dermatological condition known as acrodermatitis enteropathica. Berggren and Hanson [1966] described the case of a 4-year-old boy who was given 1,200 mg 5-chloro-7-iodo-8-quinolinol daily for 11 months, whereupon he developed poor vision, optic nerve atrophy and an undulating nystagmus. A second case was described by Etheridge and Stewart [1966] occurring in a 42-month-old boy who for the same disease received 3,200 mg 5-chloro-7-iodo-8-quinolinol daily for more than

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2 years. His symptoms were: poor vision, pale discs and oedem-atous maculae, and a nystagmus of the pendular and wandering type, followed by a jiggle and seesaw nystagmus, which was intermittent. The similarity between these two cases and our own is striking.

Berggren and Hanson [1968] demonstrated that substantial amounts of the 8-hydroxyquinolines are absorbed. The distribution over the various body tissues is still unknown. A retinopathy such as that caused by chloroquine, which has the same basic molecule, has not been described. – That Enterovioform is less harmless than descriptions of the drug (e.g. Medisch-Pharmaceutische Mededelingen 1967) would seem to suggest is also apparent from reports on cerebral oedema in dogs and cats [Smits, 1968]. The dosage in the 3 cases described was high, and in our case there may have been increased absorption due to stagnation in the intestinal tract. Given the fact that Enterovioform is widely used as a prophylactic against diarrhoea in travelling and during holidays, a warning would seem to be appropriate.

References

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