Food faddism causing vision loss in an autistic child

O. Uyanik,* B. Dogangun,† L. Kayaalp,‡ B. Korkmaz* and A. Dervent*

*Child Neurology Division, Neurology Department, Cerrahpasa Faculty of Medicine, Istanbul University
†Private Beyaz Psychotherapy Center, and
‡Child and Adolescent Psychiatry Department, Cerrahpasa Faculty of Medicine, Istanbul University, Istanbul, Turkey

Accepted for publication 31 August 2005

Eating disorders are common in autism, a neurodevelopmental disorder that is characterized by social interaction deficiency, communication problems and stereotypic behaviours. The spectrum of eating problems includes pica, particular food refusal, food fads, overeating and various degrees of anorectic behaviours. Although eating behaviours are not diagnostic symptoms of autism, they may be quite troubling in the management of the child and sometimes giving rise to some serious complications. We report a case of vitamin A deficiency with secondary xerophthalmia in an autistic and epileptic child.

Case

An 8-year-old boy was admitted to our clinics because of the progressive visual impairment first appearing as a loss of night vision for a year and being unable to open his eyes for the last 4 months. His motor development was within normal limits. He said his first words at 1 year and used only few words until the age of 3. At this age, complex partial seizures, lasting 2–4 s with a frequency of two to four times a day, appeared, after which he had progressive communication problems ultimately causing loss of all contact except with his mother, and behaviour problems such as hitting and biting. He had also various repetitive behaviours such as spinning objects and hand flapping.

In the neuropsychiatric examination, he was uncooperative, agitated and had stereotyped movements and echolalia. He clenched his eyes and resisted sharply to any opening attempts. The ophthalmic examination under general anaesthesia revealed dry ocular surface, negative pupillary light reflexes bilaterally, corneal opacity, severe corneal vascularization, generalized hyperkeratosis and an active corneal ulcer in the left eye. Further questioning of the patient's mother revealed that the child had a very poor diet, eating only fried potatoes and drinking nothing else than some water for 4 years.

His subsequent serum vitamin A level measurement was 10 μg/L (normal range, 360–1200 μg/L). Any systemic absorptive and hepatic origin were ruled out by several laboratory tests including abdominal ultrasound. Hence, malnutrition was considered as the cause of vitamin A deficiency with secondary xerophthalmia in this case. Antibiotic drop therapy [hourly cefazoline sodium (50 mg/mL)] and vitamin A palmitate 100 000 USP units were given intramuscularly followed by oral multivitamin supplementation (including 5000 USP units of vitamin A palmitate).

One month later after the treatment, ophthalmic examination under the general anaesthesia showed a prominent corneal improvement and slightly positive pupillary light reflexes. The patient became able to open his eyes, regained some of his vision and had less agitation.

Discussion

Eating behaviours are one of the struggling problems of autism putting these children at high risk

Correspondence:
Burak Dogangun, Child Psychiatrist, Private Beyaz Psychotherapy Center, Dr Tevfik Saglam Cad. Ferah Apt. No: 15 D: 6 Bakirkoy, Istanbul, Turkey
E-mail: burakdogangun@hotmail.com

of nutritional deficiencies and their complications. Although vitamin A deficiency occasionally occurs in malnourished children living in the third world, the deficiency may also be encountered in autistic children who live in industrial world because of their own food faddism. To our knowledge, two cases of autism with symptomatic vitamin A deficiency were reported till now (Clark *et al.* 1993; Steinemann & Christiansen 1998).

It is postulated that children with autism who are on a restricted diet have an increased prevalence of essential amino acid deficiencies that might have influences on developing brains of children with autism (Arnold *et al.* 2003) presumably causing defects in the neuronal synthesis of some neurotransmitters. In autistic children with eating problems it is important to consider a greater spectrum of deficiency of vitamins and minerals as well as subtle clinical problems caused by near abnormal levels of these substances, so an effective and early intervention may be administered to prevent more severe complications. Further research is needed to find out whether some children with autism have a vitamin A abnormality secondary to a genetic programming (Rogers & Newhart-Larson 1989; Perrault *et al.* 1999).

In conclusion, the presented child who displayed classic features of xerophthalmia related to vitamin A deficiency should remind us that food faddism in autistic children may cause progressive vision loss.

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