

Delirium with therapeutic doses of azithromycin

In paediatric patients, delirium is the most frequent behavioural symptom of acute brain dysfunction (1) and neuropsychiatrists are commonly asked to assess patients with hallucinatory syndromes (2). Childhood delirium is different from adult or geriatric delirium and is characterised by a more acute onset, more severe perceptual disturbances, more frequent visual hallucinations, more severe delusions, more severe lability of mood, greater agitation, less severe cognitive deficits, less severe sleep-wake cycle disturbance and less variability of symptoms over time (3).

Azithromycin is a macrolide antibiotic active *in vitro* against major pathogens responsible for infections of the respiratory tract and soft tissues in children. It has been structurally modified from erythromycin with an expanded antibacterial spectrum and improved pharmacokinetic characteristics. Azithromycin is dosed (10 mg/kg) orally once daily for 3 days and is well tolerated in the treatment of paediatric patients. Adverse gastrointestinal effects, including nausea, vomiting, diarrhoea and abdominal cramps, are the most common problems in children but adverse effects involving the central and peripheral nervous systems have also been observed in children (4). There have been several reports of delirium as adverse effects of azithromycin—all cases in geriatric patients (5–7). The paper is probably the first report of delirium in child with therapeutic doses of azithromycin.

A 6-year-old Caucasian girl was treated for acute otitis media with oral azithromycin (10 mg/kg once daily) which was the only medication she was taking.

After the first dose of the antibiotic the girl became a bit drowsy but she was not presenting psychotic symptoms. After the second dose of the antibiotic she started presenting symptoms of acute confusional state. Medical examination of the girl revealed delirium—she responded to her name but she was incoherent and disoriented. She had been hallucinating and talking to people who were not there. Her vital signs were temperature 36.8°C, pulse rate 87 beats/min, respiratory rate 14 breaths/min, blood pressure 105/60 mmHg. She had no previous history of neurological or mental ill health as well as her neurological development and acquisition of her psychomotor abilities were normal. There were no neuropsychiatric diseases in her family. The antibiotic was identified as the only possible cause of the described clinical manifestations and was stopped immediately. The girl's parents did not agree for the girl to be taken to hospital. Azithromycin was substituted by cefuroxime (15 mg/kg b.i.d). After the modification of the therapy all psychotic symptoms subsided gradually within 48 h. Psychotic symptoms did not reappear.

The onset of delirium after azithromycin intake, its remission once the drug was stopped and the absence of any other possible causative factors are in favour of azithromycin-induced delirium. Further support for a causality was obtained by application of Naranjo's Adverse Drug Reaction Probability Scale (8) which describes causality as probable (score 7/13).

It is worth remembering when a child with sudden changed behaviour is evaluated that it may depend on adverse effect of used medication.

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