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Case Report

Azithromycin-induced Abnormal Self-limiting Neuropsychiatric Manifestation: A Case Report

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Abstract

Azithromycin is one of the most commonly prescribed antibiotic. It is also considered as one of the safest antibiotic with advantage of once a day dosage. It is also available as over-the-counter medicine. Most commonly encountered adverse effect of azithromycin is gastrointestinal, mostly nausea, diarrhea, bloating, and indigestion. We present the case of a young male patient who presented with symptoms of upper respiratory tract infection and was prescribed tablet azithromycin 500 mg for 4 days. On taking first dose of azithromycin 500 mg, the patient noticed sudden-onset acute confusional state within 2 h of ingestion. He had vivid thoughts, confusion, disorientation, and blurring of vision which lasted for 20–30 min. This episode subsided spontaneously without any intervention. Such episode with azithromycin is exceedingly rare and hardly noticed in four patients till date. Knowledge of such azithromycin-induced neuropsychiatric manifestation is necessary and should be kept in mind.

Key words: Azithromycin, Neuropsychiatric, Self limiting, Rare, Thought disorder

INTRODUCTION

Azithromycin is very well known and commonly used antibiotic for multiple clinical conditions. It is known for much less side effects profile, very good tolerability,[1] and once a day dosage advantage. Common side effects associated with it is gastrointestinal related such as nausea, vomiting, abdominal cramps, diarrhea, and indigestion. Very handfuls of case reports have mentioned azithromycin-associated neuropsychiatric manifestations.

Schiff *et al.*, in 2010, came across two brothers aged 6 and 15 years with severe and prolonged complex neuropsychiatric manifestations associated with azithromycin treatment. Both brothers experienced visual and auditory hallucinations, and one brother additionally experienced multiple partial complex seizures, severe headaches, and recurrent cortical blindness. All symptoms commenced within 24 h after the initial dose of azithromycin and resolved slowly, within 2–4 weeks. They stated that possible genetic and environmental basis could explain such episode.[2]

Baranowski, in 2009, reported a 6-year patient who developed acute confusional state, disorientation after receiving a dose of azithromycin. This resolved within 48 h after stopping that drug.[3]

Murphy *et al.*, in 2017, concluded that azithromycin may be helpful in treating youth meeting the pediatric acute-onset neuropsychiatric syndrome diagnosis, especially those with elevated levels of both obsessive-compulsive disorder and tic symptoms.[4]

Cone *et al.,* in 2003, reported significant delirium associated with conventional dosing of azithromycin in two geriatric patients who were being treated for lower respiratory tract infection. The onset of delirium was apparent within 72 h of initiating azithromycin therapy and lasted 48–72 h after discontinuing treatment with the drug.[5]

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CASE REPORT

A 28-year-old male patient presented to the outpatient department with complaints of increased sneezing, runny nose, dry cough, mild headache, and throat pain for 8 days. His temperature was 99.8°f. His vitals were normal. On examination, he was not having pallor, icterus, clubbing, lymphadenopathy, or edema. On auscultation chest was clear and there were no any adventitious sounds heard. Heart sounds were normal and there was not any murmur or abnormal sound. His bowel and bladder habits were normal. His sleep was normal.

He was prescribed tablet paracetamol 650 mg, tablet Combiflam (Brufen 400 mg + paracetamol 325 mg), tab rabeprazole 20 mg, and tablet azithromycin 500 mg stat and 250 mg to be continued once a day for 3 days. The patient went home at around 11:30 am. He took tablets paracetamol and azithromycin at 12:30. At around 2 pm, the patient noticed sudden unusual thinking. He started feeling that multiple small stones maybe hundreds of them falling over him followed by a huge mountain falling over him and he getting compressed beneath it. He was terrified by this happening. It was followed by numbness of whole face and numbness of upper half of body above umbilicus. It was followed by cramps in both hands so that he could not unlock his touch screen android mobile as he wanted to call his father and tell him this situation. His maid was at home, he asked her to call for some help. Maid called neighbor, who then brought him to emergency department of our hospital. By the time, he reached hospital his thought complains were gone. His vitals when checked at casualty were normal. His heart rate was 78/min, regular, blood pressure was 128/76 mm hg, and respiratory rate was 14/min. His other family members also reached hospital.

On examination, he was conscious, obeying, cranial nerve examination was normal. There was no focal neurological deficit. There was no history of convulsions or loss of consciousness or muscle soreness or tongue bite.

He had no any addiction of tobacco or alcohol currently or in the past. He also not had any history of any growth or developmental delay in childhood, or any history of febrile seizures in childhood. There was no history of similar complaints in family. He was physically non-obese, without any obvious physical abnormalities or malformation.

The patient told that the total duration of this attack lasted for around 20–30 min, where he was intensely terrified and severely confused about is it reality or not? Now, he was perfectly fine, with no any complaints. He also denied sweating, syncope or fever, and palpitation. He was frightened to take any further medications which I had prescribed. I reassured him and asked him to take tablet paracetamol (dolo 650). He took paracetamol 650 mg. Again after around 1 h, I asked him to take Combiflam (400+325). He took that tablet too. We observed him for 2 h; he did not get any complaint. Meanwhile, I searched azithromycin and neuropsychiatric manifestation and came across some studies with neuropsychiatric abnormalities like partial complex seizure after taking azithromycin which resolved over a period of 2–4 weeks.

The patient as well as family members of him were reassured that the attack he had is likely due to azithromycin. Genetic predisposition of the patient to azithromycin could be the cause behind it. Surprisingly, his mother and brother also received azithromycin few days back only but did not get any abnormal phenomenon.

The patient was asked to omit azithromycin and to continue tablet paracetamol or Brufen.

DISCUSSION

Azithromycin is one of the most widely prescribed antibiotic for various clinical indications. Most of the side effects of azithromycin are gastrointestinal such as diarrhea and indigestion. Complaints occurred to this patient have been never occurred in pediatric population and seldom in adults. This case report gives us a rationale of knowing that azithromycin may cause some sudden-onset neuropsychiatric manifestation or thought abnormalities which may last for few minutes and may resolve on its own. More and more such occurrings should be recognized so that it could be well documented that azithromycin may cause some neuropsychiatric behavior.

CONCLUSION

Azithromycin can cause sudden onset of neuropsychiatric manifestation which can be frightening to the patient and their relatives. Genetic predisposition could be the cause of such manifestation.

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