

Ofloxacin induced psychosis—A rare complication

Dear Editor,

A 25 year-old male with no past history of psychiatric illness was admitted to our ICU with a history of restlessness, agitation, and violent behavior. He had been diagnosed with typhoid fever 2 days ago and was prescribed. Ofloxacin 400 mg twice a day per oral for 14 days. He took three doses of Ofloxacin 400 mg and started developing these symptoms.

On admission, he was vitally stable, afebrile, but disoriented, confused, highly aggressive, violent, with slurred speech and needed restraints. He complained of auditory hallucinations of doctors and staff conspiring to kill him. His urine toxicology screen was negative. Routine laboratory investigations were within normal limits. Meningitis was ruled out with a clean lumbar tap and a CT scan revealed no intracranial pathology. The psychiatric evaluation suggested acute psychosis. As the only drug he had ingested before the symptoms was Ofloxacin and his Naranjo adverse drug reaction score was 6, a possibility of Ofloxacin-induced psychosis was considered. He had received another dose after admission, it was stopped immediately thereafter. He showed a dramatic improvement in his symptoms over the next 2 days, he was symptom-free on the 3rd day and was subsequently discharged.

Our patient developed symptoms after three doses of Ofloxacin and recovered within 24 h of discontinuation of the drug. The dose of Ofloxacin administered was within the recommended range. He was afebrile on admission with normal investigations and neurological exam. The Naranjo algorithm for adverse drug reaction causality assessment gave a score of 6, suggesting that the reaction was probably related to the the drug.^[1]

Antibiotic-induced psychiatric changes are rare and often underreported, and may be misdiagnosed as psychiatric illness leading to unnecessary treatment. Frequent adverse events of Fluororoquinolones include nausea, diarrhea, abnormal liver function tests, increased risk of tendinopathy, and prolonged QT interval. Post-marketing surveillance studies have revealed hallucinations, convulsions, dizziness, tremors, confusion and toxic psychosis as rare adverse events with fluoroquinolone therapy.^[2] Ciprofloxacin, Ofloxacin, and Perfloxacin were the quinolones with the most neurological and psychological adverse drug events, adverse reactions with Ciprofloxacin being the most common, probably

related to its extensive usage worldwide.^[3] The mechanism of fluoroquinolone-associated CNS toxicity has not been fully elucidated, but may involve gamma-aminobutyric acid (GABA). Inhibition of binding of GABA to GABA A receptors in the CNS results in CNS stimulation.^[4] Chauhan *et al.* in 2013 described a case of a 5-year-old girl who developed visual hallucinations after Ofloxacin use for bacterial dysentery. The Naranjo score in that incidence was also 6.^[5] Back in 1989, Zaudig *et al.* described two cases of organic psychosis after Ofloxacin use. The possible involvement of GABAergic and monoaminergic mechanisms in the psychotic symptomatology were discussed.^[6]

If a temporal association of the use of a drug having the potential to cause hallucinations is present, mere withdrawal of the drug causes complete improvement in the symptoms. It would be prudent to consider drug-induced psychosis as a possibility when acute onset behavioral changes are associated with the use of these medications.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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