Levofloxacin induced psychosis: a rare case report

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INTRODUCTION

Various drugs are implicated as a cause of mental status changes as a side-effect. Fluoroquinolones constitute an under-recognized cause of the same. The central nervous system (CNS) side-effects of levofloxacin are rare and include headache, dizziness, convulsion, hyperkinesia, hypertonia, paraesthesia, insomnia, abnormal dreaming, agitation, anxiety, and confusion.1 There have been only isolated reports of paranoia, delirium, depression, hallucination, manic reaction, toxic psychoses, withdrawal syndrome, suicide attempt or ideation. These adverse reactions usually occur only at high doses or when predisposing factors are present. Risk factors for neurotoxicity included renal insufficiency, elderly age, underlying CNS disease and increased CNS penetration of drug.2 We report a rare case of levofloxacin induced acute psychosis in a young male presenting in outpatient department with signs of urinary tract infection along with pneumonitis.

CASE REPORT

A 28-year-old male with no medical and psychiatric comorbidities presented to us in OPD with complaints of low grade fever, burning micturition and generalized body ache from 2 days. On examination, 100.4°F temperature was recorded. No focus of infection could be ascertained by physical examination. Patient was advised complete blood count, urine examination and chest X-ray posterior-
of the Q-wave and the end of the T-wave (QT) interval, blood glucose disturbances, and photosensitivity, among others. According to the European dossier data, from 5388 patients treated with levofloxacin, 12% of patients developed an adverse effect, possibly related to the drug; but only 1% of these were classified as serious. Psychosis occurred in only 0.6 million prescriptions; however, it is an important problem that has to be considered with this group of antibiotics.

The common CNS side-effects (incidence ranging from 1% to 10%) include headache and dizziness. Uncommon adverse effects (0.1-1%) include convulsions, hyperkinesias, hypertonia, paresthesia, somnolence, tremor, vertigo, abnormal gait, and syncope. Axonal polyneuropathy is a rare (<0.1%) reaction. The side-effects for which frequency is not reported include abnormal coordination, coma, hyposthesia, involuntary muscle contractions, hyperesthesia, paralysis, speech disorder, stupor, encephalopathy, leg cramps, ataxia, migraine, seizures, and pseudotumorcerebri. There have been post-marketing reports of abnormal electroencephalogram, exacerbation of myasthenia gravis, anosmia, ageusia, parosmia, dysgeusia, encephalopathy, dysphonia, hypoacusis, and tinnitus. The WHO reported 82 cases of anti-biomania (antimicrobial induced mania). Of these, clarithromycin was implicated in 23 (27.6%) cases, ciprofloxacin in 12 (14.4%) cases, and ofloxacin in 10 (12%) cases. Rest cases stemmed from cotrimoxazole, metronidazole, and erythromycin.

The development of these effects seems to be related to the degree to which the fluoroquinolones bind to gamma aminobutyric acid (GABA) receptor and their differing potential to act as GABA antagonist and bind to the N-methyl-D-aspartate receptor, leading to CNS excitation.

The authors would like to conclude with the message that since fluoroquinolones are widely used in the treatment of various infections; hence it is important to be aware of adverse effects of these drugs. Mental state changes are rare, but may occur after levofloxacin administration as depicted in the present case. Thus, it is advisable to administer this drug under close clinical monitoring and to take urgent psychiatric consultation at the earliest discernable changes in the mental state.

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REFERENCES