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Clarithromycin induced mania

Clarithromycin is an antibiotic used for the treatment of a variety of infectious diseases. We wish to report a case where strong evidences point to clarithromycin as a causative factor of mania.

Mrs A, a 41-year-old woman with a history of depression since she was 29 years old, started to take clarithromycin (500mg bid 12-12h) for the treatment of a urinary tract infection. She was also taking paroxetine 20mg od and diazepam 10mg od for the treatment of her depression. After the first dose of clarithromycin (day one), she developed insomnia. Gradually her behaviour changed. On day three she had a pressured speech, insomnia and marked psychomotor restlessness.

On the fourth day of antibiotic, and after she had taken six doses of 500mg of clarithromycin, she was taken by her daughter to the emergency room with the following clinical picture: hostile behaviour, pressured speech, psychomotor agitation, delusion of grandiosity and mystic delusion and absent insight.

She was interned compulsively and clarithromycin was stopped, as was paroxetine and diazepam. She was discharged from the hospital 15 days later, with no symptoms of mania or psychosis and medicated with chlorpromazine 100mg od and lorazepam 2.5mg od. The dose of chlorpromazine was then gradually titrated until it was stopped. Mrs A is currently asymptomatic. She is taking the following medication: paroxetine 20mg od and diazepam 10mg od.

During the course of her psychiatric illness, she had never experienced an episode of hypermania, mania or psychosis.

In the case reported, three facts must be underlined since they point to clarithromycin as a fundamental aetiological element of the clinical picture of mania:

- The insomnia started immediately after the first dose of clarithromycin
- Fast onset (less than 70 hours) of mania
- Fast improvement of the clinical picture after clarithromycin was stopped.

Although insomnia is a known cause of mania, in this case this is unlikely given the relation between the time of onset of mania and the time of insomnia. The revised literature highlights the possible existence of an individual biological susceptibility as a needed condition for the onset of mania and/or psychosis. Only in this way we can understand that, not all patients with the same psychiatric disease, taking the same medication, develop mania and/or psychosis when taking the same dose of clarithromycin.

How clarithromycin induces mania and/or psychosis remains unknown. However, some explanations have been proposed:

- It may pass the haematoencefalic barrier inducing behavioural changes
- It may increase the blood levels of cortisol and prostaglandins, hormones that have been associated with mania
- It may increase the blood level of another drug.

The case reported above also alerts us clinicians about the importance of the clinical history in the evaluation and understanding of the patients' clinical picture.

Declaration of Interest: None.

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References
1. Abouesh A, Hobbs WR.Clarithromycin-induced mania (letter). Am J Psychiatry 1998; 155(11): 1626.
2. Abouesh A, Stone C, Hobbs WR. Antimicrobial-induced mania (antibiomania): a review of spontaneous reports. J Clin Psychopharmacol 2002; 22(1): 71-81.
3. Adam Abba-Aji, Owen Mulligan . Psychosis? Beware – case series of clarithromycin and psychosis. Ir J Psych Med 2007; 24(2): 79-80.
4. Cone LA, Sneider RA, Nazemi R, Dietrich EJ. Mania due to clarithromycin therapy in a patient who has not infected with human deficiency virus. Clin Infect Dis 1996; 22: 595-596.
5. Elahi F, Bhamjee M. A case of clarithromycin psychosis, Psychiatric Bull 2004; 28: 98-99.
6. Finkenbine RD, Frye MD. Case of psychosis due to prednisone-clarithromycin interaction [letter]. Gen Hosp Psychiatry 1998; 20: 325-326.
7. Filkenbine R, Gill HS. Case of mania due to prednisolone-clarithromycin interaction (letter). Can J Psychiatry 1997: 42(7): 778.
8. Geiderman JM. Central nervous system disturbances following clarithromycin ingestion. Clin Infect Dis 1999; 29: 464-465.
9. Gómez-Gil E, Garcia F, Pintor L, Martínez JÁ, Mensa J, de Pablo J. Clarithromycin-induced acute psychosis in Peptic Ulcer Disease. Eur J Clin Microbiol Infect Dis 1999; 18: 70-71.
10. Jiménez-Pulido I, Navarro-Ruiz A, Sendra P, MArtínez-Ramírez M, García-Motos C, Montesinos-Ros A. Hallucinations with therapeutic doses of clarithromycin. Int J Clin Pharmocol Ther 2002; 40(1): 20-22.
11. Mermelstein HT. Clarithromycin-induced delirium in a general hospital. Psychossomatics 1998; 39(6): 540-542.
12. Nightingale SD, Koster FT, Mertz GJ, Loss SD. Clarithromycin-induced mania in two patients with AIDS. Clin Infect Dis 1995; 20: 1563-1564.
13. Ortiz-Dominguez A, Berlanga C, Gutiérrez-Mora D. A case of clarithromycin-induced manic episode (antibiomania) [letter]. Int J Neuropsychopharmacol 2004; 7: 99-100.
14. Pollak PT, Sketrics IS, Mackenzie SL, Hewlett TJ. Delirium probably induced by *clarithromycin in a patient receiving fluoxetine. Ann Pharmacother* 1995; 29: 486 488
15. Prime K, French P. Neuropsychiatric reaction induced by clarithromycin in a patient on highly active antiretroviral therapy (HAART). Sex Transm Infect 2001; 77: 297-298.
16. Steinman MA, Steinman TI. Clarithromycin-associated visual hallucinations in a patient with chronic renal failure on continuous ambulatory peritoneal dialysis. Am J Kidney Dis 1996; 27(1): 143-146.
17. Warner A. Clarithomycin – A precipitant for Acute Psychotic Stress (letter), Psychossomatics 2000; 41(6): 539.

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