

Sertraline and extrapyramidal effects: an unknown case of dysgraphia

M. Gentili¹, C. Galimberti², O. Fusi², C. Carnovale¹, P. Marinaccio², G. Ba², E. Clementi^{1,3}, S. Radice¹, C. Viganò²

¹Unit of Clinical Pharmacology, Dept. of Biomedical and Clinical Sciences, Luigi Sacco University Hospital, Università di Milano, Milan, Italy

²Psychiatry Unit, Dept. of Biomedical and Clinical Sciences, Luigi Sacco University Hospital, Università di Milano, Milan, Italy

³Scientific Institute, IRCCS E. Medea, Bosisio Parini, Lecco 23842, Italy

Sertraline is an antidepressant of the selective serotonin reuptake inhibitor (SSRI) class, often used in the elderly population for depression. Sometimes this drug is not well tolerated, for lack of efficacy or to a high occurrence of extrapyramidal effects (Dixit et al., 2015), such as tremors and dyskinesia. To date, dysgraphia is an unknown event correlated to the drug label.

Herein, we present the case of 60-year-old man taking 200-mg/die sertraline for major depressive episodes. Concomitantly he was treated with mirtazapine 15 mg once a day. The patient experienced tremors, dyskinesia and dysgraphia after two months of sertraline's administration. Following the onset of ADR, the dosage of drug was reduced, with a complete resolution of symptoms.

Even if anamnestic data showed that patient is particularly sensitive to any kind of antidepressant drug, the time of onset, the positive dechallenge and the association between drug's dose and the onset of the reaction suggested a causal relationship between tremors, dyskinesia, dysgraphia and sertraline administration. The Naranjo Algorithm indicated a 'probable' relationship between sertraline and extrapyramidal effects (Naranjo et al., 1981).

The post marketing surveillance has recorded high incidence of extrapyramidal effects of sertraline, especially in patients receiving polytherapy with SSRIs and atypical antipsychotics (Kohen et al., 2007). Tremors were categorised among the most common sertraline's ADRs registered in frail populations. It is possible that the concomitant administration of mirtazapine may have played a role in the induction of tremor: indeed it is known that the interaction between sertraline and mirtazapine can induce serotoninergic syndrome, which counts among his most frequent symptoms tremors.

Reports of extrapyramidal adverse reactions associated with the use of SSRI and related literature, have shown that the use of sertraline could inhibit extrapyramidal dopaminergic activity. This mechanism would promote the occurrence of events such as dystonia, dyskinesia (Caley, 1997) and dysgraphia. The damage or reduced neurotransmission to extrapyramidal system is correlated to difficulties graphics. Therefore the mechanism, through which the sertraline would induce dyskinesia, could be the same responsible of exacerbation of dysgraphia in our patient. Moreover, some studies have shown that activation of 5HT₂ receptors has inhibitory effects on dopaminergic activity (Shi et al., 1995), by carrying Parkinson-like action such dysgraphia.