Quetiapine Sustained Release in Treatment of Delirium Induced by Cerebral Metastasis

Antonino Messina a Anna Maria Fogliani b

aSchool of Specialization in Psychiatry and bMedical and Surgical Specialties Department, School of Specialization in Psychiatry, University of Catania, Catania, Italy

Key Words
Delirium · Quetiapine · Cognitive impairment · Confusional state · Agitation

Abstract
While haloperidol represents the first-line treatment of delirium, some studies have shown that atypical antipsychotics could be used as an efficacious treatment in delirium management. This article reports a case of a delirious patient, treated effectively and quickly with Quetiapine sustained release with negligible side effects.

"If the patient is delirious, does not recognize his friends and cannot hear or understand, this is a mortal symptom."

Hippocrates

Delirium, also known as acute confusional state or encephalopathy, is a common syndrome that affects about 10–30% of hospitalized patients [1]. Delirious patients have a high risk of mortality and morbidity, thus increasing the costs to society. According to the Diagnostic and Statistical Manual for Mental Disorders (ed. 4, text revision; DSM-IV-TR) by the American Psychiatric Association [2], delirium is a ‘disturbance of consciousness [...] with reduced ability to focus, sustain or shift attention’, and with an acute onset and a fluctuating course. Cognitive impairments, agitation, disorders of thought and of perceptions are common phenomena in delirious patients.

Pathogenesis of delirium is related with a reduction of cholinergic neurotransmission, with a hyperactivity of dopamine and norepinephrine neural pathways, and with changes in serotonin and γ-aminobutyric neurotransmission [3, 4].

Although the use of haloperidol is the gold standard in delirium treatment, in recent studies many authors [5–8] have discussed the possibility of the use of atypical
antipsychotics in delirium management. A systematic review of efficacy and safety of atypical antipsychotics showed that haloperidol was the first-line treatment, although atypical antipsychotics could be preferred to reduce extrapyramidal side effects [9]. There are some data on the use of Risperidone and Olanzapine in the treatment of delirium [1, 5, 7, 10, 11] while other atypical antipsychotics have limited data [1]. Some authors reported the efficacy of Quetiapine in delirium, indicating an improvement in delirious symptoms [6, 12–15]. This case report evidences the efficacy and the safety of 300 mg of Quetiapine sustained release (SR) in the treatment of delirium.

Case Report

Our patient, a 60-year-old Italian man, was admitted to the Psychiatric Unit because of spatial and temporal disorientation, mental confusion, restlessness and agitation. One year before admission to the Psychiatric Unit he had been diagnosed with a small cell lung cancer with a metastatic lesion in the right parietal cerebral lobe and had been treated with chemotherapy and radiotherapy. He worked in a petrochemical industry and smoked about 1 pack of cigarettes per day. On admission, his medications were Desametason 1 mg b.i.d., Pantoprazole 20 mg b.i.d., and Fentanil 100 μg/h transdermal patch. On a psychic evaluation the patient was confused, irritable, and disoriented. His speech was incomprehensible, consciousness was soporous, and attention was reduced. Thought process was disorganized with paranoid delusions. Clinical phenomena had a fluctuating course and the patient showed a sundown syndrome, characterized by reduced daytime alertness, insomnia and confusion. The Mini Mental State Examination (MMSE) score was 18. He was afebrile, his blood pressure was 130/80 mm Hg with a heart rate of 90 bpm, a respiratory rate of 24 breaths per minute, and an oxygen saturation of 93%. Laboratory tests presented decreased haemoglobin (11.3 g/dl) and HCT (35.0%). WBC, glucose, creatinine, platelets, BUN, electrolytes, AST, and ALT were within normal range. The patient was diagnosed with delirium due to brain lesion. He was treated, after written informed consent, with Quetiapine (SR) 300 mg/day and continued therapy with Desametason 1 mg b.i.d., Pantoprazole 20 mg/day and Fentanil 100 μg/h transdermal patch. After four days of treatment with Quetiapine SR the consciousness, cognition and thought process improved. The patient normalized his sleep-wake cycle, and was not aggressive or irritable. Delirium remitted and MMSE score passed from 18 to 27. Quetiapine was well tolerated without side effects.

Discussion

The use of Quetiapine was effective and safe in the treatment of delirium, improving delirious symptoms as cognitive dysfunction, delusional and behavioural phenomena, and regularizing the sleep-wake rhythm. Receptorial profile of Quetiapine includes dopaminergic (D1, D2) and serotonergic (5HT1A, 5HT2) antagonism. This double receptorial affinity could be useful to regularize the alterations of serotonergic and dopaminergic neurotransmission in delirium. Serotonin plays a role in the pathogenesis of delirium [16] and the receptorial profile of Quetiapine could be more specific in treating delirious patients. In fact, Quetiapine, at doses of 300 mg/day, shows a high ratio of 5-HT2A/D2 receptor occupancy [17].

Quetiapine has a very low incidence of extrapyramidal side effects [18], lacks anticholinergic and antimuscarnic effects [19] and does not cause a further reduction of cholinergic neurotransmission, which is compromised in delirium. In sum, Quetiapine SR presents a rapid effect, improving cognitive impairments, thought disorders and behavioural disorders, without relevant side effects. This case report confirms the efficacy of Quetiapine in the resolution of delirium.
References