

## CASE REPORT

# ECT and Clozapine combination producing delirium : A Case Report

SATINDRA KUMAR, UTPAL GOSWAMI, DEBAKANTA BEHERA, UDAYAN KHASTGIR

### ABSTRACT

Although successfully used, caution has been advised with the combined use of clozapine and electroconvulsive therapy (ECT). The combination has been associated with delirium, in this report, which successfully resolves on discontinuation of ECT.

**Key words:** ECT Clozapine, Schizophrenia

Simultaneous use of electroconvulsive therapy (ECT) and clozapine has always been controversial. Fink (1990) strongly advocates the use of ECT along with a neuroleptic in drug-resistant schizophrenia instead of subjecting the patients to prolonged neuroleptic trial. However, Meltzer (1990) points out that the combination might be effective only in the less chronic schizophrenic patients, especially those with marked depressive features. He also suggests that the effects are modest and usually transient.

Frankenburg et al, (1993), Benatov et al, (1996) have reviewed the use of ECT and clozapine in treatment-resistant schizophrenics and found it to be safe and effective although short lived. Efficacy of this combination without any adverse effects has also been reported in mania (Lurie, 1996, Chanpattana, 2000) However, the combined use has been shown to cause serious adverse effects like prolonged seizure (Bloch et al, 1996), supraventricular tachycardia and blood pressure elevation (kupchik et al, 2000) and thus contraindicated. We are reporting the case of a schizophrenic patient who developed delirium when clozapine was added to ECT.

### CASE

A 56 year old male schizophrenic patient

having family history of schizophrenia in elder brother presented with an illness characterized by persecutory delusions and hostility accompanied by prominent euphoric symptoms for the last 5 years, with alcohol intake amounting to dependence for the last 3 years. When he showed no response to 6 weeks treatment with 20mg/day olanzapine, haloperidol was started and titrated to a dose of 20 mg/d. Thrice-weekly modified ECTs were also added in the third week of haloperidol use. At the end of 4 weeks, haloperidol was discontinued as there was no clinical response and clozapine initiated at 50 mg/d in divided doses. By then, the patient had already received 7 modified ECTs with haloperidol without any cognitive impairment on Mini Mental State Examination (MMSE). Clozapine was escalated to 75 mg/d on the third day of the combination. However, MMSE in the evening of the following day of ECT with 75 mg clozapine revealed a decrease to a score of 10, with the patient in delirium. ECTs were withheld while clozapine continued. There was a gradual recovery in cognitive functions over the next three days, MMSE rising to 16 on second day, 20 on the third day and 23 on the fourth day after delirium had developed. Clozapine was continued and escalated to a dose of 350 mg without observing any adverse effect with stable MMSE scores.

## DISCUSSION

In the aforesaid case, ECT and clozapine were found to be safe when used alone. However when combined together, they gave rise to delirium, which is a very serious condition with a mortality up to 20%. Patient's clinical profile like age and alcohol dependence might have been attributing factors but unlikely as delirium occurred weeks after the last dose of alcohol and he improved dramatically after stoppage of ECT. Although, some authors find it safe to combine ECT and clozapine, it still remains an area of active research and controlled studies are required to be carried out to establish the efficacy and safety of the method. Till then, the practice of combining ECT and clozapine together should be used with caution.

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\*SATINDRA KUMAR, MD, Senior Resident; UTPAL GOSWAMI, MD, Professor and Head, DEBAKANTA BEHERA, MD, Senior Resident, UDAYAN KHASTGIR, MD, Senior Consultant, Department of psychiatry, Lady Hardinge Medical College & associated hospitals, New Delhi 110 001, INDIA.

\*Correspondence