Diazoxide in the treatment of schizophrenia: novel application of potassium channel openers in the treatment of schizophrenia.


Source
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Abstract

OBJECTIVE:

Schizophrenia is a very common disorder, affecting 1% of the world population. People who develop schizophrenia experience severe suffering and approximately 10% commit suicide. The causes of schizophrenia are still largely unknown. The relative ineffectiveness of dopamine antagonists to treat some symptoms of schizophrenia has promoted many investigators to postulate the involvement of the neuronal system in the pathophysiology of this disease. It has been suggested that the dopamine-coupled adenosine triphosphate (ATP)-sensitive channels may function by hyperpolarizing cells during metabolic stress, a function that may be disrupted in people with schizophrenia. Therefore, application of potassium channel openers/activators may be beneficial in schizophrenia. Diazoxide is a benzothiadiazine derivative related to the thiazide diuretics and a potassium channel opener. The purpose of the present investigation was to assess the efficacy of diazoxide, as an adjuvant agent in the treatment of schizophrenia.

METHODS:

Forty-two patients who met the DSM IV criteria for chronic schizophrenia completed the study. Patients were randomized to haloperidol 20 mg/day plus diazoxide 200 mg/day (21 subjects) or to haloperidol 20 mg/day plus placebo (21 subjects) in this 8-week double-blind study.

RESULTS:
Although both protocols significantly decreased the score of the positive, negative and general psychopathological symptoms over the trial period, the combination of haloperidol and diazoxide showed a significant superiority over haloperidol alone in the treatment of positive and general psychopathology symptoms as well as positive and negative syndrome scale (PANSS) total scores. In addition, in the diazoxide group a rapid onset of action on the positive symptoms was observed in week 2, whereas in the placebo group there was no significant effect at week 2. No significant differences were observed between the two protocols on the negative scores.

**CONCLUSION:**

The results of this study present a novel application for potassium channel openers/activators in the neuropsychiatric disorders and diazoxide may be an effective adjuvant agent in the management of schizophrenia.

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