

## LOWER SERUM BCL-2 PROTEIN LEVELS IN SCHIZOPHRENIA PATIENTS TREATED WITH THE SECOND THAN THE FIRST GENERATION ANTIPSYCHOTICS

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Schizophrenia is one of the most severe psychiatric diseases the etiology of which remains unknown. Among the many factors involved in the pathophysiology of schizophrenia, a role of apoptosis has also been hypothesized. Bcl-2 protein is a potent inhibitor of apoptosis, showing in addition neurotrophic activity in the central nervous system. Since the expression of Bcl-2 protein is increased in several neurodegenerative diseases and schizophrenia shows some of the features of a limited neurodegenerative disorder, it has been hypothesized that Bcl-2 protein expression is altered in schizophrenia. In order to test this hypothesis, Bcl-2 protein was determined in the sera from 30 patients with schizophrenia and from 30 age- and gender-matched healthy subjects using the ELISA method. Although the mean serum Bcl-2 protein concentration was lower in patients with schizophrenia than in healthy volunteers, there was not any significant difference between the patient ( $0.276 \pm 0.07$  ng/mL) and control ( $0.332 \pm 0.22$  ng/mL) values. No significant difference was found between males and females either. Similar Bcl-2 concentrations were obtained in the group showing almost equally positive and negative symptoms ( $0.275 \pm 0.068$  ng/mL), in the group with a relative predominance of positive symptoms ( $0.283 \pm 0.082$  ng/mL) and in the group with a relative predominance of negative symptoms ( $0.275 \pm 0.074$  ng/mL). Serum Bcl-2 protein concentration in patients treated with first generation antipsychotics was  $0.301 \pm 0.075$  ng/mL, and it was significantly higher compared to the values in patients receiving second generation antipsychotics ( $0.233 \pm 0.052$  ng/mL,  $p < 0.05$ ). There was not any significant correlation between serum Bcl-2 concentration and heredity, onset of the disease, number of psychotic episodes and duration of psychosis. To date and to the best of our knowledge, this has been the first demonstration of Bcl-2 concentration in the sera of patients with schizophrenia, showing significantly different values between the patients treated with typical and those treated with atypical antipsychotics.

*Acta Medica Medianae 2017;56(4):126-131.*

**Key words:** schizophrenia, serum, Bcl-2 protein, antipsychotics