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Serum BDNF in First-episode Psychosis and Controls

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INTRODUCTION
The brain-derived neurotrophic factor (BDNF) is a neurotrophin fundamentally involved in the differentiation and growth during brain development. BDNF has pathogenically been linked to the schizophrenia neurodevelopmental hypothesis. Several studies have found lower BDNF blood levels in chronic schizophrenia than controls. Few studies suggest that BDNF levels in first-episode psychosis (FEP) are lower than in healthy controls (HC).

OBJECTIVE
Comparing serum BDNF levels in a group of antipsychotic-naive FEP with HC and determining the serum BDNF pattern during the first year illness evolution.

METHODS
Serum BDNF levels at admission of 28 inpatients with FEP were compared with 28 age/gender matched HC. BDNF was also measured at discharge, three, six, nine and twelve months. After discharge, antipsychotics were gradually decreased. Results are presented as mean±sd. and BDNF levels in ng./ml.

RESULTS
At admission, patients BDNF levels were significantly lower than controls (18.06±4.06 vs 26.55±3.22, $p<0.001$). At discharge FEP levels increase until HC levels without significant differences between gropus (25.95±3.93 vs 26.55±3.22, $p=0.539$). Upon the following determinations, BDNF FEP levels progressively decreased, reaching the admission values, and being significantly lower than the controls and that levels at discharge (patients: three months: 19.68±3.88; six months: 19.02±4.13; nine months: 17.64±5.24; twelve months: 17.51±3.45 vs controls: 26.55±3.22, all $p<0.001$).

CONCLUSIONS

Our results confirm the studies that found lower BDNF levels in chronic schizophrenia. Serum BDNF levels could be considered as a biological marker of treatment and evolution of FEP. Further studies with FEP patients with and without treatment are warranted.

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