

Correlation between cognitive impairment and prognostic parameters in adult patients with congenital heart disease

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Introduction: Cognitive deficits have been observed in patients with congenital heart disease (CHD). This impairment could lead to difficulties in the management of these patients with regards to the understanding of their disease or in adhering to pharmacological treatment and medical advice. Aim of this study is to assess the cognitive and psychological function in adult patients with moderate and great complexity CHD and to attempt to correlate the results with prognostic parameters.

Methods: Thirty consecutive clinical stable patients, mean age 28.1 ± 1.7 years old, 50% male, with moderate and great complexity congenital heart defects were recruited from a tertiary center. Patients cognitive capacity, psychological and neurohormonal status was assessed with a mini mental examination test (MMSE), Beck depression inventory and Zung depression scale questionnaires and plasma B-type brain natriuretic peptide (BNP) respectively.

Results: All patients were symptomatic (NYHA \geq II). Mean plasma BNP concentration was 210 ± 300 pg/ml. In 26.6% of cases a pathological MMSE score emerged. 33.3% were characterized as having depressive symptoms. A positive correlation between MMSE and age ($p=0.01$), BNP ($p=0.02$) and the presence of depressive symptoms ($p=0.02$) was observed but not between MMSE and NYHA class.

Conclusions: MMSE and BNP plasma levels could be considered simple tests for identifying CHD patients who need special attention and systematic neuropsychological testing and who require a strong doctor/patient interaction for patient's adherence to therapy.