

DOI: <https://doi.org/10.56936/18290825-4.v18.2024-4>**DYNAMICS OF THE LEVEL OF AMINO-TERMINAL FRAGMENT OF PRO-BRAIN NATRIURETIC PEPTIDE IN PATIENTS WITH ATRIAL SEPTAL DEFECT LIVING AT HIGH ALTITUDE AT DIFFERENT STAGES OF DEFECT CORRECTION****ABDRAMANOV K.A., KOKOEV E.B.\* , ABDRAMANOV A.K.,  
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*Received 09.01.2024; Accepted for printing 10.11.2024***ABSTRACT***N-terminal pro b-type natriuretic peptide levels reflect cardiac overload in congenital heart disease.**The aim of the present study was to investigate N-terminal pro b-type natriuretic peptide during the stages of surgical correction of atrial septal defect in an older age group living in a lowland and highland area.**A retrospective analysis of operated patients from 2013 to 2021 was performed. The main group consisted of 30 patients with atrial septal defect living in the high mountainous area. The control group included 30 patients living in the plain area. A comparative analysis of the immediate results of N-terminal pro b-type natriuretic peptide at the stages of disease-modifying antirheumatic drug plasty was performed, which was the basis for performing this study. N-terminal pro b-type natriuretic peptide values in healthy people vary from 0 to 125 pg/mL (control group). At the preoperative stage N-terminal pro b-type natriuretic peptide values in patients living in the plain averaged  $532.33 \pm 257.31$  pg/mL, which was significantly 6.48 times ( $p < 0.001$ ) higher than in the control group. In highlanders with interatrial septal defect N-terminal pro b-type natriuretic peptide levels significantly exceeded the values of the control group amounted to  $2743.67 \pm 163.87$  pg/mL ( $p < 0.001$ ). Positive correlation between N-terminal pro b-type natriuretic peptide, tricuspid annular plane systolic excursion and systolic dysfunction of the left atrium was determined.**N-terminal pro b-type natriuretic peptide indices in highlanders are significantly higher than in lowlanders both before and at all stages of surgical correction. Preoperative N-terminal pro b-type natriuretic peptide level more than  $2743.6 \pm 163.87$  pg/mL in patients with ventricular septal defect living in high mountainous areas, New York Heart Association class III - IV, left ventricular ejection fraction less than 50% leads to secondary surgical outcome development in early postoperative period. N-terminal pro b-type natriuretic peptide is an independent reliable marker of heart failure.***KEYWORDS:** atrial septal defect, NT-proBNP, high altitude, tricuspid annular plane systolic excursion, left ventricular ejection fraction.**INTRODUCTION**

The main risk factor for cardiovascular complications in the older age group is right ventricular insufficiency [Ro S et al., 2023] due to initial high pulmo-

nary hypertension, affecting the severity of the initial condition of patients and the course of the early postoperative period [Baumgartner H et al., 2021].

**CITE THIS ARTICLE AS:**

*Abdramanov K.A., Kokoev E.B., Abdramanov A.K. et al. (2024). Dynamics of the level of amino-terminal fragment of pro-brain natriuretic peptide in patients with atrial septal defect living at high altitude at different stages of defect correction. The New Armenian Medical Journal, vol.18(4), 4-11; <https://doi.org/10.56936/18290825-4.v18.2024-4>*

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