**BRAIN NATRIURETIC PEPTIDE AS A PREDICTOR OF VOLUME-OVERLOAD IN CHILDREN WITH SHUNT LESION**

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Objective: Data regarding BNP in children with congenital heart disease is still relatively few.

Method: A prospective case controlled short-term follow up study over 2 years. Study included 58 shunt patients & 48 healthy control. For patients with cardiac defect, cardiac catheterization for hemodynamic study was done. Device occlusion of the defect was carried out for suitable cases. BNP was measured in all the studied groups and also three months post catheterization in cases with defect occlusion.

Results: The mean BNP level was significantly higher (p value= 0.006) in patients (34.9±12.5 pg/ml) compared to control group (9.85 ± 6.67 pg/ml). Girls in the pre-pubertal period (> 10 years) had a significant higher BNP levels than boys both in patients & control with P value (0.01 and 0.04 respectively). BNP levels in PDA & VSD patients were positively correlated with the z-score of echocardiographic left ventricle end diastolic dimension with P value 0.01 and 0.001 respectively. BNP levels were positively correlated with the volume overload represented by the pulmonary to systemic flow ratio (Qp/Qs) with P value 0.001 in VSD & PDA and 0.034 in ASD patients. Mean BNP levels decreased significantly three months after shunt occlusion when correlated to the pre-catheterization data (32.9 versus 16.7 in PDA, 34.1 versus 17.5 in VSD and 30.8 versus 14.8 in ASD patients) with P value < 0.01 each, however the follow-up measurements were still significantly higher than the mean control level.

Conclusion: BNP measurement is a good indicator for evaluating volume overload cardiac defect