



CLINICAL EVALUATION OF CHILDREN WITH NEUROCIRCULATORY DYSTONIA

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Abstract:

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The purpose of the article is to study the clinical features of children with neurocirculatory dystonia (NCD) of the hypertensive type. The study included 30 children aged 7 to 16 years with hypertensive type NCD, who were examined and treated in the cardiology department of the Andijan Regional Children's Clinical Hospital.

Keywords: children, neurocirculatory dystonia of the hypertensive type, autonomic dysfunction, cardiac examination.

INTRODUCTION

Autonomic dysfunction (AD) is a complex of functional disorders, which is based on a violation of the regulation of vascular tone of the autonomic nervous system [2]. In the occurrence of VD, several etiological factors usually play a role simultaneously. NCD of the hypertensive type is a manifestation of a violation of autonomic regulation [1, 3]. Predisposing factors causing NCD include:

- acute and chronic psycho-emotional and social and everyday stressful situations [2, 3];
- previous acute and recurrent nasopharyngeal infection [2];
- exposure to physical and chemical factors (hyperinsolation) [3];
- increased ambient temperature, ionizing radiation, vibration and other negative production factors) [1];
- alcohol and tobacco intoxication [3];
- physical inactivity and excessive congestion at school [3,4];
- dishormonal disorders during puberty [4];
- mental and physical fatigue [3].

MATERIALS AND METHODS

We examined 30 children with NCD of the hypertensive type, who were examined and treated in the cardiology department of the Andijan Regional Children's Clinical Hospital with a diagnosis of VD: NCD of the hypertensive type (G 90.8). Of these, 11 (36%) girls and 19 (64%) boys aged 7 to 16 years, 28 (93%) children lived in the city. Along with general clinical and laboratory examination methods and assessment of physical development, the children underwent an electrocardiogram (ECG) in 12 standard leads and echocardiography (Echo-CG). To assess the vegetative status in children with hypertensive type NCD, cardiointervalography (CIG) was performed. The initial autonomic tone, autonomic reactivity and autonomic support of activity were assessed.

RESULTS AND DISCUSSION

According to the clinical examination upon admission, the condition in all children was regarded as moderate in severity relative to autonomic dysfunction. When collecting anamnesis, it was revealed that heredity was aggravated by hypertension in 2 (7%) patients. Among the concomitant diseases in children, minor anomalies of heart development were encountered: anomalous chord of the left ventricle - 22 (73%) patients, cardiac arrhythmias - 10 (33.3%) people, chronic tonsillitis - 2 (7%) children, chronic gastritis - 6 (20%) cases. When assessing physical development, average harmonious development was recorded in 10 (33%) children, above average harmonious development in 12 (40%), overweight was observed in 8 (27%) patients.

The most common complaints upon admission: increased blood pressure - in 27 (90%) children, headache - in 18 (60%), episodes of rapid heartbeat - in 7 (23%), dizziness - in 7 (23%), general weakness - in 6 (20%) people. Elevated blood pressure on admission (according to percentile values of blood pressure depending on age, sex and height) was recorded in 18 (60%) children, tachycardia was observed in 9 (30%) patients. According to an objective examination, the boundaries of relative cardiac dullness in all children were normal. In 23 (77.7%) children, systolic murmur was heard in the Botkin area and at the apex of the heart. An objective examination revealed no pathology from other organs. No pathological changes in laboratory parameters were registered in children.

On the ECG, all children showed sinus rhythm, 6 (20%) had sinus arrhythmia, 20 (67%) children had a normal position of the EOS, 6 (20%) had a vertical position of the EOS, 2 (7%) had horizontal EOS. According to the ECG results, clinically insignificant disturbances or rhythm changes were revealed in 18 (60%) children, among which short PQ interval



syndrome was observed in 10 (55.5%) patients, incomplete blockade of the right bundle branch in 9 (33%), early ventricular repolarization syndrome - in 1 (5.5%), single supraventricular extrasystole - in 1 (5.5%), single episode of 2nd degree sinoatrial block - in 1 (5.5 %) child.

ABPM was performed in 22 (73%) children. Of these, in 14 (64%) people, the average daily values corresponded to labile hypertension of systolic blood pressure (SBP) and labile hypertension of diastolic blood pressure (DBP), in 5 (23%) children - stable hypertension of SBP and DBP, in 3 (13%) patients they corresponded to normotension. The average night values corresponded to stable hypertension SBP and labile hypertension DBP in 13 (59%) children, labile hypertension SBP and DBP in 7 (32%) people and normotension in 2 (9%) patients.

According to Echo-CG data, 17 (57%) children had physiological regurgitation on the tricuspid valve, 12 (40%) people - on the pulmonary valve, 3 (10%) - on the mitral valve. 21 (70%) patients had abnormal left ventricular chordae. In 4 (13%) patients, echocardiography was normal.

According to the fundus examination, no pathology was identified in children.

Normotonic VVT was observed in 24 (80%) children, sympathicotonic VVT - in 1 (3%) person, vagotonic - in 5 (17%) patients. Autonomic reactivity in the majority of children - 19 (63%) patients was hypersympathicotonic, in 9 (30%) - normotonic, in 2 (7%) - asympathicotonic. Autonomic support of activity: normal - in 16 (61%) children, hypersympathetic type - in 8 (31%) people, asympathetic-tonic - in 2 (8%) patients.

The treadmill test was performed in 26 (87%) children. High tolerance to physical activity was observed in 2 (8%) children, average - in 20 (77%), below average - in 3 (11%), low - in 1 (4%) child. No clinically significant rhythm and conduction disturbances were recorded during the stress test.

Thus, children with NCD of the hypertensive type are characterized by the absence of organic disorders of the CVS against the background of labile high blood pressure, which indicates functional disorders in this variant of VD.

CONCLUSION

1. NCD of the hypertensive type was more often detected in children with high physical development and a predominance of neurological and cardiac complaints in the clinic.

2. In children with NCD of the hypertensive type, clinically insignificant rhythm disturbances and

concomitant minor anomalies of heart development were revealed; according to the results of the exercise test, average tolerance to physical activity is characteristic.

3. According to the data of vegetative tests and ABPM in children, excess BP, normal VO and labile AH predominated, which indicates functional changes in adaptation disorders and requires careful monitoring of the dynamics of BP figures.

4. A comprehensive examination of patients with NCD of the hypertensive type using vegetative tests and analysis of exercise tolerance allows for the selection of pathogenetically based treatment and monitoring of its effectiveness.

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