

## The role of aggression and depression in juvenile systemic hypertension

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### ABSTRACT

The aim of the work is a detection of youths in the age of 15-16 years old with systemic hypertension and an evaluation of the degree of an aggressiveness among them. The 378 youths were examined. Taking into account the age and the height an arterial blood pressure was measured in the rest condition three times by means of the acoustic method of Korotkov with three minute intervals between measurements. In the 8,46% (32 youths) of cases the systemic hypertension was determined. The control group was formed from 31 healthy volunteers. For the evaluation of an aggressiveness' degree the questionnaire of Bass and Dark was used. The simultaneous rise of the level of physical, indirect and verbal aggression and irritability was determined in 37,5±9,0% of systemic hypertension whereas in control group it made up 6,45±3,0%. The results obtained suggests that the increment of the level of an aggressiveness in youths may play a pathogenic role in the development of a systemic hypertension.

**KEYWORDS:** *juvenile systemic hypertension, aggression, depression*

According to the results of an epidemiologic research the systemic hypertension originates from the childhood and adolescence. In the most cases of a juvenile systemic hypertension the inheritance link with the several generations regarding to the hypertension risk is observed. In the future this type of adolescents – even with the mild hypertension, represents the significant part of adults with systemic hypertension [1].

The preventive activity just in the period of the establishment of a personal character and acquisitions may be more effective than the drug therapy of the disease already developed. In the conditions of the negative psycho-emotional influence (that is the main exogenous factor in the pathogenesis of the systemic hypertension) the such personal features as anxiety, depression, fear etc., are involved in the pathogenesis of the systemic hypertension by force of an activation of the sympathetic-adrenal system [2,3,4].

The aim of the work is a detection of youths in the age of 15-16 years old with systemic hypertension and an evaluation of the degree of an aggressiveness among them.

The 378 youths in the age 15-16 years old – schoolboys of the 11 grade and first-year students, were examined. An arterial blood pressure was measured in the rest condition three times by means of the acoustic method of Korotkov with three minute intervals between measurements. For the assessment of the blood pressure we used the 90 percentile value for blood pressure taking into the account the percentile of the age and height. As a norm for a blood pressure in the 15-16 years old age is considered the 90 percentile for blood pressure; the high norm – range of percentile from 90 to 94, and the percentile more than 95 is considered as a hypertension [5,6].

In the 8,46% (32 youths) of the cases the systemic hypertension was determined. The control group was formed from 31 healthy volunteers.

Among the persons with a juvenile hypertension 18,75% was obese, 28,12% has hereditary risk, 46,9% revealed an excess intake of a salt, 9,4% consumption of alcohol, 21,9% low physical activity.

For the evaluation of an aggressiveness' degree the questionnaire of Bass and Dark was used and for the assessment of a depression's level Hamilton's and international 12-question screening-questionnaire.

The data were proceeded by the parameter and non-parameter statistical mode.

Thus 32 young men with systemic hypertension and 31 healthy young men of control group were examined. As the table 1 indicates the rise of particular indices of Bass and Dark questionnaire in the juvenile hypertension in comparison with the control group was statistically unauthentic. The high value of physical aggressiveness was found in 78,12±7,0% of juvenile hypertension; the value of indirect aggressiveness - 56,25±9,0%, while in control group 38,7±9,0%; irritability in juvenile hypertension - 40,63±9,0%, while in control group - 25,8±8,0%; the index of verbal aggressiveness in juvenile hypertension - 62,5±9,0%, while in control group - 67,7±8,0%. In the same time some persons revealed statistically authentic increment of several indices, particularly physical, indirect, verbal aggression and irritability. The indices noted were increased simultaneously in 37,5±9,0% of systemic hypertension, whereas in control group only in 6,45±3,0%.

The same results were observed regarding to the other items of the questionnaire. For instance: the index of negativity in systemic hypertension was increased in 43,75±9,0%, while in control group - 25,8±8,0%; resentment in systemic hypertension - 21,9±7,0%, but in control - 12,9±6,0%; perception of guilt in systemic hypertension was quite high - 75,0±8,0%, while in control group - 54,8±9,0%; jealousy in systemic hypertension - 12,5±6%, in control group - 22,6±8,0%.

An the same time the difference between the basic and control groups was unauthentic. In systemic hypertension a statistically authentic simultaneous rise was noted just only of two indices – negativism and perception of guilt, particularly 28,12±8,0%, while in control groups - 6,45±5,0%.

In the hypertensive contingent examined the mild depression was found in four youths, that made up 12,5%, and that was manifested by decreased mood and the perception of a self-disutility and guilt.

Thus, the epidemiologic study in 15-16 years old youth revealed juvenile systemic hypertension in 8,46%.

So, the data obtained confirm that the simultaneous rise of the several characteristics of an aggressiveness, in

particular – physical, indirect, verbal aggression and irritability, in adolescents with juvenile systemic hypertension may be considered as the one of the pathogenic factors in the development of a systemic hypertension.

	Physical aggression		Indirect aggression		Irritability		Verbal aggression		Negativity		Resentment		Jealousy		Perception of guilt		Aggressiveness index		Hostility index	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
juvenile arterial hypertension n=32	22	78,12±7,0	18	56,25±9,0	13	40,63±9,0	20	62,5±9,0	14	43,75±9,0	7	21,9±7,0	4	12,5±6,0	24	75,0±8,0	25	78,12±7,0	10	31,25±9,0
control group n=31	22	71,0±8,0	12	38,7±9,0	8	25,8±8,0	21	67,78,0	8	25,8±8,0	4	12,9±6,0	7	22,6±8,0	17	54,8±9,0	22	71,0±8,0	14	43,2±9,0

**Tab.1** The quantity of persons with risen level of aggression among young men of 15-16 years old (by Bass and Dark).

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## Частота ювенильной артериальной гипертензии и степень агрессивности у юношей

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### РЕЗЮМЕ

Цель работы - выявление юношей в возрасте 15-16 лет с повышенным артериальным давлением и определение степени агрессивности среди них. Обследовано 378 юношей. Артериальное давление измеряли трехкратно акустическим методом Короткова с трехминутным интервалом в состоянии покоя. Среди обследованных в 8,46% (32 юношей) случаях выявлено повышения артериального давления. Контрольную группу составил 31 здоровый доброволец. Для оценки степени агрессивности использовали опросник Басса и Дарка. Одновременное повышение уровня физической, косвенной и вербальной агрессии и раздражительности у лиц с ювенильной артериальной гипертензией выявлено в 37,5±9,0%, тогда как в контрольной группе этот показатель оказался равным 6,45±3,0%. Полученные результаты позволяют предположить, что повышение уровня агрессии среди молодых лиц, по-видимому, может служить одним из патогенетических факторов развития артериальной гипертензии.

**Ключевые слова:** ювенильная артериальная гипертензия, агрессия, депрессия