青少年会議のテーマ

Ⅰ．　健康

１．健康維持の技術

２．地域の公衆衛生促進の取り組み

※発表形式／ポスター発表（詳細は下記を参照）

Ⅱ．港湾都市

１．港湾都市の国際協力推進における役割

２．現代の環境問題とその解決策

３．地域の養殖現況

※発表形式／ラウンドテーブルディスカッション

5 分間のプレゼンテーション（PowerPoint、プロジェクター使用可）

またはポスター発表（詳細は下記を参照）

Ⅲ．ファッション

１．ファッションデザイン（伝統と新技術）

※発表形式／ラウンドテーブルディスカッション

5 分間のプレゼンテーション（PowerPoint、プロジェクター使用可）

Ⅳ．アジア太平洋地域の若者のライフスタイル

１．地域の芸術・文化・スポーツ

※発表形式／ラウンドテーブルディスカッション

5 分間のプレゼンテーション（PowerPoint、プロジェクター使用可）

２．地域の若者ボランティア活動

※発表形式／ラウンドテーブルディスカッション

5 分間のプレゼンテーション（PowerPoint、プロジェクター使用可）

Ⅴ．郷土料理

１．分子ガストロミー（分子美食学）

※発表形式／ラウンドテーブルディスカッション

5 分間のプレゼンテーション（PowerPoint、プロジェクター使用可）

・ポスター発表の仕様

ポスターのサイズは「Ａ０」です。ポスターの先頭に「タイトル」「氏名」「所属学校名」「国名」「顧問の名前」を明記して下さい。

※詳しくは最後のページの「サンプルポスター」を参照してください。

・発表要旨（要約）の仕様

ＭＳワード（ＤＯＣファイル）で作成してください。

フォントは「Times New Roman 12 ポイント」、間隔は「1.5」、ページは 1 ページ以内で余白（上下左右 2 ㎝）をとってください。

また、発表要旨の中に「論文タイトル」「氏名」「所属学校名」「国名」「顧問の名前」を明記してください。

※参加者は、6 月 19 日の青少年会議で発表する内容を上記のいずれかのテーマの中から選択して、発表資料を作成してください。

発表資料（PowerPointファイルなど）は、2013 年 5 月 15 日までにウラジオストク国際観光課へお送りください。ポスター発表を行われる場合も事前にお送りください。

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Poster Sample

Differences of systemic arteries mechanical properties during remission and exacerbation of asthma

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Abstract

With the purpose of research the mechanical properties of central vessels we examined 54 patients with severe and moderate asthma by noninvasive arteriography (arteriograph TensioClinic TL1 (TensioMed, Hungary)) during remission and exacerbation of disease. Control group included 25 age- and sex-matched healthy volunteers.

Results: The aortal stiffness in asthma exacerbation was increased. It was expressed in increase of aortic pulse wave velocity (aPWV) and augmentation index (IA). APWV and IA in asthma remission essentially improved and have reached control level. Moreover, IA in patients with remission of severe asthma was lower, than in healthy ones ($p<0,01$) and in patients with remission of moderate asthma ($p<0,01$). So IA in severe asthma was -54,3±7,8%; in moderate asthma -38,6±6,7% and in controls -40,9±7,1%. The negative correlation between IA, severity and duration of disease has been observed ($r=-0,36$ and $r=-0,44$ ($p<0,01$)).

Conclusion: Results of our investigation may be connected with developing adaptation in response to regular influences of aggressive factors on vessel walls during asthma exacerbations. Established things can occur only without any irreversible changes of arteries. Our observation can partially explain diminish of cardiovascular risk in patients without of asthma exacerbation.

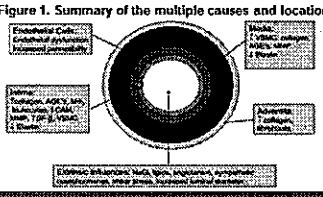
Objectives

Coexistence of cardiovascular disorders and asthma is ambiguous question. On the one hand vascular disturbances are important part of asthma pathogenesis. On the other hand the absence of serious vascular damage in asthma was remarked many times ago [1,2].

Exacerbation of asthma can associates with increase of arterial stiffness, as described recently [2]. Augmented arterial stiffness essentially influences on hemodynamics, by increasing of myocardium postloading and worsening of coronary perfusion conditions [3,4]. Increase of aortic pulse wave velocity (aPWV) can increase the risk of fatal insult and the general risk of death in such category of patients [3,4].

It is unclear whether is increase of arterial stiffness observed equally in asthma exacerbation and remission.

Figure 1. Summary of the multiple causes and locations of arterial stiffness [3].



Methods

We examined 54 patients with severe and moderate asthma by noninvasive arteriography (arteriograph TensioClinic TL1 (TensioMed, Hungary)). Control group included 25 age- and sex-matched healthy volunteers.

It was measured aortic pulse wave velocity (aPWV) oscillometricaly. APWV is the main direct measurement of arterial stiffness [3]. Automatically calculated augmentation index (Alx). The height of the late systolic peak (P1) above the inflection (P2) defines the augmentation pressure, and the ratio of augmentation pressure to pulse pressure defines the Alx in percent (figure). Alx is the additional stiffness index showing interaction between direct and reflected pulse waves [3,5].

Table 1. THRESHOLD VALUES OF AIX AND APWV

	Alx	APWV
optimal	<-30%	<7m/s
normal	from -30% to -10%	from 7m/s to 9,7m/s
increased	from -10% +10%	from 9,7m/s to 12m/s
abnormal	>10%	>12m/s

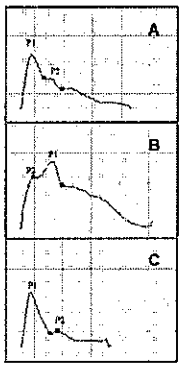


Figure 2.
The typical aortic pulse waves forms according to indirect arteriography.
On axis X - time, a step = 200msec;
on axis Y - pulse wave amplitude, a step = 40 mm hg. P1 - direct pulse wave peak, P2 - return pulse wave peak.

* - indicator of return pulse wave returning ;
«-» duration of left ventricular ejection period

A) healthy person
B) severe asthma exacerbation
C) severe asthma remission

Results

The aortal stiffness in asthma exacerbation was increased. It was expressed in increase of aPWV and Alx.

In all cases APWV and Alx in asthma remission essentially improved and have reached control level. Moreover, Alx in patients with remission of severe asthma was lower, than in healthy ones and in patients with remission of moderate asthma (table). The negative correlation between Alx, severity and duration of disease has been observed ($r=-0,36$ and $r=-0,44$ ($p<0,01$)).

Table 2. Arterial stiffness in asthma patients on the data of noninvasive arteriography

	moderate asthma	severe asthma	control
aPWV, m/s	7,47±1,2**	10,5±1,3***,	6,2±0,5
	6,3±1,2*	6,1±1,05***	
Alx, %	-25,1±8,2**	14,4±5,8***,	-10,9±8,1
	-38,6±6,7*	-54,3±7,8***,***	

In a numerator are parameters during asthma exacerbation, in a denominator - during remission. Reliability of distinctions: * - between each of groups of asthma patients and the control, * - between the exacerbation and remission: one badge - $p<0,05$, two - $p<0,01$, three - $p<0,001$.

Conclusions

Results of our investigation may be connected with developing adaptation in response to regular influences of aggressive factors on vessel walls during asthma exacerbations. Established things can occur only without any ineversible changes of arteries. Our observation can partially explain diminish of cardiovascular risk in patients without of asthma exacerbation.

References

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