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The Panic Disorder prevalence and it's influence on the severity of aspirin-induced asthma

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Summary

Aim. Aspirin-induced asthma (AIA) is a distinct asthma phenotype in which the achievement of good somatic status is usually difficult. So far studies have reported a high rate of Panic Disorder (PD) in general asthma population, though the impact of this anxiety disorder on asthma remains unclear. This psychiatric comorbidity have not been studied in this type of asthma, yet.

Methods. The author examined psychiatrically a group of 100 consecutive patients suffering from aspirin-induced asthma. There were 66 women (66%) and 34 men (34%). The average age was 52.7 (SD=12.3) for women and 49.8 (SD=13.0) for men.

Psychiatric interview and assessment was performed by experienced liaison psychiatrist according to ICD-10 and DSM-IV diagnosis using M.I.N.I 5.0 and Panic And Agoraphobia Scale (PAS). Asthma severity was assessed according to NHLBI/NAEPP 2007.

Results. 41% percent of patients met the diagnostic criteria for PD. Analyses revealed that there is correlation between asthma severity and PD presence and intensity of anxiety symptoms.

Conclusions. Results suggest that PD is prevalent among patients with aspirin-induced asthma and it's symptom's presence is associated with worse asthma severity. Physicians should consider the impact of this condition while planning the optimal treatment.

aspirin-induced asthma / Panic Disorder / asthma severity

INTRODUCTION

Asthma is not a homogenous disease and encompasses many phenotypes. One of them is aspirin-induced asthma (AIA) which may occur in about 21% asthmatics when analyzed by aspirin challenge procedures [1]. Recently in Poland it's prevalence according to questionnaire study was estimated at 4.3% [2]. The characteristic symptoms of AIA natural course consist of: persistent rhinosinusitis followed by asthma and aspirin hypersensitivity. This last symptom is associated with increased asthma severity and more than half of patients with AIA require treatment with oral corticosteroids.

In recent years there is increasing awareness of the association between the course and severity of asthma and psychiatric and psychological problems, especially Panic Disorder (PD) [3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]. There have been reported that rates of PD are from two to six times more prevalent among asthma patient compared to general population [21, 22]. The reason for this observation is not clear yet. The specificity of asthma symptoms itself may increase the risk for PD, but there is also the suggestion that PD (sometimes connected with depressive symptoms) may influence asthma severity.

THE GOALS OF THE STUDY

1. To assess whether PD symptoms correlated with AIA severity.

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2. To assess how often PD symptoms were comorbid with AIA of different severity (intermittent, mild, moderate, severe).

METHOD

Participants: The sample comprised 100 adult patients with diagnosis of AIA who were assessed and treated in Department of Pulmonology Jagiellonian University Medical College. There were 66 (66%) women and 34 (34%) men. The only inclusion criteria was diagnosis of AIA according to pulmonological classification NHLBI/NAEPP 2007. No one of the group refused the assessment.

Mean age in the group was 51.7 years (SD=12.5), for women 52.5 years (SD=12.3), for men 48.8 years (SD=13.0).

To the group with intermittent asthma pulmonologist included 20% of the cohort, to mild persistent asthma 21%, to moderate persistent asthma 30%, and to severe persistent asthma 29% of the cohort.

Measures: Diagnosis of PD was obtained by MINI (Mini International Neuropsychiatric Interview, polish version 5.0.0) and Panic and Agoraphobia Scale (PAS).

M.I.N.I (Mini International Neuropsychiatric Interview). Authors: Sheehan D.V., Lecrubier Y. 1998. Polish version (5.0.0): Masiak M., Przychoda J. Departament of Psychiatry, Lublin, Poland. M.I.N.I is brief, fully structured interview designed to diagnose mental disorders according to Axis I DSM IV [23].

Panic and Agoraphobia Scale (PAS). Author: B. Bandelow, Department of Psychiatry of Goettingen, version 1999 [24]. It is a special instrument necessary for determining the severity of PD. The scale contains 13 questions (items) each with 5 possible answers (0-4). Five components have been taken into account: panic attacks, agoraphobic avoidance, anticipatory anxiety, disability and worries about health.

Assessement: 0-8: lack of symptoms; 9-18: mild symptoms; 19-39: severe symptoms; 40 or more: very severe symptoms.

Statistical analysis: Student's t-test and chi-squared test were used for bivariate analyses. Categorical variables were compared using chi-squared test. Continuous variables were compared by using t-test for two-class comparisons.

RESULTS

1. Correlation between intensity of PD symptoms and severity of AIA has been found. (Tab. 1).
2. Frequency of different intensity of PD assessed by PAS in AIA of different severity (Tab. 2 *next page*).

Table 1.

	coefficient	correlation
Severity of asthma vs intensity of PD assessed by PAS	0.26	p=0.000006

PD was not present in 59 (59%) of AIA patients with different asthma severity, also in 13 (13%) patients with severe AIA.

PD was present in 41 (41%) of AIA patients, including 9 patients with mild PD, 28 (28%) with moderate and severe PD and 4 (4%) with very severe PD. PD was comorbid with AIA of different severity. Most often severe and very severe PD was comorbid with moderate and severe AIA (30 and 29 patients).

DISCUSSION

Bronchial asthma remains one of the most prevalent chronic respiratory disorders worldwide and it's prevalence has been increasing in both developed and developing countries in recent years. Achievement of good asthma treatment outcomes depends on multiple factors, including psychiatric disorders, especially PD, and also depression [5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21]. Comorbidity of asthma and PD is relatively new problem recognized in this field, but it is already regarded as more common and therefore also more important than comorbidity of asthma and depression [22]. Nevertheless psychiatric problems, including PD, are neither frequently diagnosed nor properly treated in asthmatic patients.

Also the results of the present study indicate a high rate of PD among adult patients with aspirin-induced asthma. PD occurred in 41% of the

Table 2.

		PAS: lack of PD symptoms	PAS: mild PD	PAS: moderate and severe PD	PAS: severe PD	All
Asthma	AIA intermittent	17	0	4	0	21
		80.95%	0.00%	19.05%	0.00%	
	AIA mild persisent	12	3	3	2	20
		60.00%	15.00%	15.00%	10.00%	
	AIA moderate persistent	17	3	8	2	30
		56.67%	10.00%	26.67%	6.67%	
	AIA severe Persistent	13	3	13	0	29
		44.83%	10.34%	44.83%	0.00%	
	All	59	9	28	4	100

assessed population. The prevalence of PD in the research cohort seems to be higher than in other studies [6, 7, 10, 11, 17, 18, 19, 20, 22] probably due to the fact that there was used much more detailed psychiatric questionnaire (PAS) designed specifically to diagnose and determining the severity of PD. In other studies questionnaires were very simplified in comparison with PAS, for instance Primary Care Evaluation of Mental Disorders, Composite International Diagnostic Interview 3.0, Hospital Anxiety and Depression Scale. For instance this last one contains only 7 general questions about anxiety symptoms. Also psychiatric assessment was performed by qualified liaison psychiatrist and not by non-psychiatrist interviewers, nurse specialists or by telephone, which is common research situation worldwide.

Besides, it may suggest that PD is more frequent in patients with this specific asthma phenotype (AIA), which was never, so far, analysed from the point of view of psychiatric comorbidities. It is possible, that the symptom progression of PD is linked with certain biological and cognitive vulnerability factors [3, 4], connected with severe life stressors – in the case of AIA patients as such stressor may be regarded life threatening aspirin-sensitive asthma attacks. This, in turn, may sensitize the person to suffer subsequent panic attacks and lead to eventual development of PD.

The interesting result of the study is also confirming the fact that there is a very strong correlation between intensity of PD and severity of aspirin-induced asthma (AIA) – (see Tab. 1).

But even more interesting result indicates, that this correlation is linked not only in linear way with most severe symptoms of PD and severe persistent AIA subgroup symptoms.

In severe persistent subgroup of AIA (Tab. 2) PD symptoms were not present in 44.83% of patients, mild symptoms were present in 10.34% of patients, moderate and severe symptoms in 44.83% of patients, but very severe PD symptoms were not present at all.

At the same time very severe PD symptoms were present in 10% of mild persistent AIA .

Such results indicate more complicated links inside AIA-PD comorbidity. It is possible, that different variables play important role in this phenomenon, such as personality traits, defensive mechanisms of personality, coherence, individual coping styles, life difficult circumstances and traumas. The further research is needed to investigate these possible risk factors of PD in AIA.

CONCLUSIONS

1. There is the strong statistical correlation between aspirin-induced asthma (AIA) severity and the presence and intensity of PD.
2. In AIA patients PD is comorbid with asthma very frequently. In this study PD was present in 41% patients of the whole cohort.
3. It seems, that the links between severity of AIA and the presence and intensity of PD is not direct (in the sense: the more severe AIA, the more intense symptoms of PD), but rather indirect. That means that there are different psychological factors connected with revealed correlation, that were not analysed in the study.

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