

Gender and presence of profound psychological traumas versus comorbidity of panic disorder and depression in difficult and aspirin-induced asthma

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Summary

Aim. The author examined psychiatrically a group of 106 patients with difficult asthma and 100 patients with aspirin-induced asthma. The special interest of the study was the link between different types of traumas that the patients from both groups had throughout their lives and comorbidity of panic and depressive symptoms that indicate severe and persistent course of common psychiatric problem.

Methods. 106 consecutive adults with confirmed, physician-diagnosed difficult asthma and 100 patients with aspirin-induced asthma underwent psychiatric interview and assessment using M.I.N.I 5.0, Beck Depression Inventory (BDI) and Panic and Agoraphobia Scale (PAS). Psychiatric assessment was performed by experienced liaison psychiatrist according to ICD-10 and DSM-IV diagnosis. In difficult asthma group there were 78 women (74%) and 28 men (26%). The average age was 51.3 (SD=14.5) for women and 47.5 (SD=12.7) for men. In aspirin induced asthma group there were 66 women (66%) and 34 men (34%). The average age was 52.7 (SD=12.3) for women and 48.8 (SD=13.0) for men.

Results. In both groups of asthmatic patients women were majority (74% with difficult asthma and 66% with aspirin-induced asthma) with higher level of panic and depressive symptoms than men. Also comorbidity of these symptoms distinguishes the group of women as more at risk of intense psychiatric vulnerability.

Conclusions. It is possible that psychological traumas affect the development, course and severity of complex psychiatric symptoms in asthmatic patients. It may play a special role in etiology of difficult asthma.

asthma / panic disorder / depression / comorbidity / gender / trauma

INTRODUCTION

The consensus has emerged from the clinical, social science, psychological and biological literature that psychosocial factors affect asthma morbidity, although their role in the genesis, incidence and symptomatology of different asthma phenotypes, are not well understood. The efforts to define various etiological risk factors for the development and clinical expression of dis-

ease have intensified in the face of rising trends in the prevalence and severity of asthma observed worldwide [1, 2, 3, 4]. A general model of the link between the impact of environment and health includes many factors, such as environmental demands, individual cognitive appraisal of stress, especially traumatic events that occurred in childhood and also in adulthood, and existing coping resources of patients. If environmental demands are found to be very threatening, and at the same time coping resources are viewed to be inadequate, such perception is presumed to result in highly negative emotional stress including panic and depressive symptoms. Up to date little is known about the impact of severe life events or traumatic stressors

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This research has not been aided by any grant.

on physical health [5, 6, 7, 8, 9, 10, 11, 12, 13]. Posttraumatic stress disorder (PTSD) has been proposed as a primary causal factor in poorer long-term health, including such physician-diagnosed medical illness as asthma, but the diagnosis of PTSD needs special conditions described in A1 criterion, namely: „the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others”. The special demands of A1 criterion exclude from diagnosis of PTSD other types of trauma, that may affect the course and severity of somatic disorders [14, 15, 16, 17, 18, 19, 20]. In the present study childhood traumas and specific trauma of suffering and/or death of an emotionally close person which occurred in adulthood are specifically analysed. This kind of trauma may predispose to the development of both panic disorder and depression. Women are more exposed to the trauma due to their social role [21, 22, 23, 24, 25, 26, 27].

It is a widely known fact in psychiatry that comorbidity between panic and depression is the single strongest type of anxiety-mood comorbidity in both treatment and general population. Largely based on clinical studies, this specific comorbidity is also thought to be a more severe condition associated with greater symptom severity, poorer outcome and treatment response, more suicidal attempts and greater functional impairment than either pure panic or pure depression. According to the National Comorbidity Survey (NCS) [28] comorbidity of panic and depressive symptoms has a severe impact on several different measures of lifetime impairment, such as help-seeking, perceived role impairment and suicide attempts, and also on the course of any somatic illness, such as recency of active disorders, high frequency of lifetime depressive episodes or full panic attacks with anticipatory anxiety. Patients suffering from panic attacks and PD with comorbidity lifetime depressive symptoms tend to report a significantly larger number of physiological symptoms during their attacks than those without lifetime depressive symptoms that may have a special influence on both subjective and objective symptoms of asthma. NCS revealed also, that prevalence of any medical service use is significantly higher among patients with comorbid PD and

depressive symptoms than among those with only one of the two disorders in each of the major treatment sectors. There is also a fairly consistent trend across service sectors for treatment intensity to be greater for those with comorbidity than pure disorders, as indicated by average number of visits among those in treatment. NCS results proved that comorbid PD-depression is more severe and persistent than either pure PD or pure depression. Generally, this type of comorbidity influences the course and development of both psychiatric and somatic diseases, including bronchial asthma [29].

GOALS OF THE STUDY

This study investigated:

1. Presence of serious psychological traumas of childhood and specific traumas of adulthood (trauma of suffering or death of emotionally close person due to long-lasting and serious somatic disease) that occurred close in time to the beginning or worsening of severe and difficult asthma and aspirin-induced asthma of different severity in two cohorts of asthmatic patients.
2. Relationship between the presence and frequency of both types of traumas.
3. Correlation between presence of both types of traumas and presence and intensity of PD and depressive symptoms (comorbidity) assessed by Panic and Agoraphobia Scale and Beck Depression Inventory.

Criteria of trauma of childhood included: long-lasting psychological and physical abuse of the child, neglect, domestic violence, alcoholism in family, severely bad economic status (eg. due to Second World War), loss of parent, violent divorce of parents.

Criteria of trauma of adulthood included: to be engaged witness, taking care of severely ill or dying emotionally close person. The onset or worsening of asthma is very often close in time to such long-lasting sequence of events.

Note! The description of specific trauma of adulthood **is not** consistent with A1 criteria of Posttraumatic Stress Disorder (PTSD), but fully consistent with A2 criteria of PTSD, name-

ly: "the person's response involved intense fear, helplessness, or horror".

METHOD

Participants: The cohort A consisted of 100 adult patients with diagnosis of AIA who were assessed and treated in Department of Pulmonology Jagiellonian University Medical College. There were 66 women and 34 men. Mean age in this cohort was 51.7 years (SD=12.5), for women 52.5 years (SD=12.3), for men 48.8 years (SD=13.0).

The cohort B consisted of 106 adult patients with diagnosis of severe and difficult asthma treated in the same place. There were 78 women and 28 men. Mean age for women was 51.3 years (SD=14.3) and for men 47.5 years (SD=12.7).

The only inclusion criteria were diagnoses according to pulmonological classification NHLBI/NAEPP 2007. None of the patients refused the assessment.

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

1. M.I.N.I (Mini International Neuropsychiatric Interview). Authors: Sheehan DV, Lecrubier Y. 1998. Polish version (5.0.0): Masiak M, Przychoda J. Department of Psychiatry, Lublin, Poland. M.I.N.I is brief, fully structured interview designed to diagnose mental disorders according to Axis I DSM IV [30, 31].

2. Panic and Agoraphobia Scale (PAS). Author: B. Bandelow, Department of Psychiatry of Goettingen, version 1999 [32]. 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. Assessment: 0–8: lack of symptoms; 9–18: mild symptoms; 19–39: moderate and severe symptoms; 40 or more: very severe symptoms.

3. Beck Depression Inventory. Author: A. Beck, polish version 1977 [33]. It is a special and widely used all over the world instrument necessary for determining the severity of depression. The

scale contains 21 questions (items) each with 4 possible answers (0–3). Assessment: 0–9: lack of depression, 10–19: mild depression, 20–25: moderate depression, above 25: severe depression.

4. Participants were also administered by means of the Life Inventory, which is 100-item interview that includes questions about generic family, relations between its members, economic status, important events from childhood, school, difficulties in adaptation to social environment, level of education, work, marital status, employment, history of panic attacks preceding PD onset, having children, diseases present in the family (this subject was very detailed, with questions about character of patient's duties). To the category of "trauma of adulthood" only most severe, long-lasting and engaging to patient diseases were included.

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

RESULTS

1. In the group A (patients with aspirin-induced asthma) traumas during childhood were present in 12 patients and in the group B (patients with severe and difficult asthma) in 22 patients (Tab. 1). Traumas during adulthood (specific trauma of suffering and/or death of emotionally close one) were present in 38 patients from group A and in 86 patients from the group B (Tab. 2). Especially the last types of traumas were statistically more common in the group B ($p < 0.001$). Moreover both types of traumas were present much more frequently in women than in men (Tab. 1 and Tab. 2 – *next page*).

In the group B sequence of traumas (presence of both types of trauma) were found much more frequently than in the group A. At the same time lack of both types of traumas in the group A was much more frequent than in the group B (Tab. 3 – *next page*).

2. In the group A the correlation between presence of traumas during childhood and intensity of PD symptoms was statistically significant ($p = 0.0003$). In the group B statistical correlation seems to suggest,

Table 1. Traumas during childhood

Trauma during childhood		
	Group A (n=100) Aspirin-induced asthma	Group B (n=106) Severe and difficult asthma
Women	11	16
Men	1	6
	12% in the group	21% in the group

Table 2. Traumas during adulthood

Trauma during adulthood		
	Group A (n=100) Aspirin-induced asthma	Group B (n=106) Severe and difficult asthma
Women	33	63
Men	5	23
	38% in the group	81% in the group

Table 3. Frequency of both types of trauma in the group A and the group B, independently of gender

		Traumas of adulthood			
		Group A Aspirin induced asthma		Group B Severe and difficult asthma	
		Lack	Present	Lack	Present
Traumas of childhood	Lack	58	30	16	68
	Present	4	8	4	18

Table 4. Intensity of PD symptoms (measured by PAS) and presence of traumas during childhood independently of gender

Group A. Aspirin-induced asthma	Intensity of PD symptoms				
		Lack	Mild	Moderate	Severe
Traumas of childhood	Lack	55	9	23	1
	Present	4	0	5	3
Group B. Severe and difficult asthma	Intensity of PD symptoms				
		Lack	Mild	Moderate	Severe
Trauma of childhood	Lack	21	7	43	13
	Present	4	2	11	5

that intensity of PD symptoms is independent from traumas during childhood (Tab. 4 – next page).

3. As well as in the group A and in the group B there is statistical correlation between the pres-

Table 5. Intensity of PD symptoms (measured by PAS) and presence of traumas during adulthood independently of gender

Group A Aspirin induced asthma	Intensity of PD symptoms				
		Lack	Mild	Moderate	Severe
Traumas during adulthood	Lack	51	5	6	0
	Present	8	4	22	4
Group B Severe and difficult asthma	Intensity of PD symptoms				
		Lack	Mild	Moderate	Severe
Trauma during adulthood	Lack	11	0	9	0
	Present	14	9	45	18

ence of trauma during adulthood and intensity of PD ($p < 0.001$) (Tab. 5).

4. In the group A the correlation between presence of traumas during childhood and intensity of depressive symptoms assessed by BDI was not statistically significant. Depressive symptoms were not present at all in 66 patients, both men and women who had not experienced them and only in 4 patients with this types of trauma. In 22 patients without this trauma depressive symptoms were mild or moderate, without severe symptoms. In 6 patients with this type of traumas depressive symptoms were mild or moderate and only in 2 patients the intensity of depressive symptoms was severe.

In the group B the statistical situation was similar. In 16 patients who had experienced traumas during childhood, depressive symptoms were not present or, if present, their intensity was mild. Only 6 patients with this type of trauma suffered from moderate and severe depressive symptoms (Tab. 6 – next page).

5. As well as in the group A and in the group B statistical correlation between the presence of trauma during adulthood and intensity of depressive symptoms ($p < 0.03$) has been found (Tab. 7 – next page).

DISCUSSION

In both research groups (A: aspirin induced asthma and B: severe and difficult asthma) trau-

Table 6. Intensity of depressive symptoms (measured by BDI) and presence of traumas during childhood independently of gender

Group A. Aspirin-induced asthma	Intensity of depressive symptoms				
		Lack	Mild	Moderate	Severe
	Lack	66	15	7	0
Traumas of childhood	Present	4	3	3	2
Group B. Severe and difficult asthma	Intensity of depressive symptoms				
		Lack	Mild	Moderate	Severe
	Lack	49	26	5	4
Traumas of childhood	Present	9	7	2	4

Table 7. Intensity of depressive symptoms (measured by BDI) and presence of traumas during adulthood independently of gender

Group A. Aspirin induced asthma	Intensity of depressive symptoms				
		Lack	Mild	Moderate	Severe
	Lack	57	3	2	0
Traumas during adulthood	Present	13	15	8	2
Group B. Severe and difficult asthma	Intensity of depressive symptoms				
		Lack	Mild	Moderate	Severe
	Lack	17	2	1	0
Traumas during adulthood	Present	41	31	6	8

mas in adulthood were present much more frequently than traumas in childhood. Moreover, both types of traumas were more common in women than in men. Most common type of traumas in A and B groups were traumas in adulthood in the subgroups of women. In B group these traumas in women were twice as common as in A group (Tab. 1 and Tab. 2). This result is fully consistent with some data from literature [21, 22, 23, 24, 25, 26, 27] and seems to suggest that women are at high risk of traumas in adulthood due to their social role. These types of traumas are very common in everyday life and, at the same time, their psychological and psychiatric importance is underestimated and their impact on general health neglected.

An interesting result is also the tendency indicating that in both groups the presence of traumas of childhood seems to be connected with presence of traumas of adulthood (Tab. 3). Such result should not be explained as coincidence, but in terms of sequence of traumas, connected with special psychological vulnerability caused by sensitization, provoked by early cognitive and emotional answer to childhood trauma. Sequence of traumas has much more severe impact on the possibility to overcome the consequences of traumas in adulthood, especially these analysed in the present study.

The importance of traumas presence throughout the whole life and its relation to PD and depressive symptoms are presented in tables from 4 to 7. In most of patients from both A and B groups who had not have traumas during childhood, PD symptoms were absent (55 persons from A and 21 from B group), but at the same time in this category moderate and severe PD symptoms were much more common in B group (56 persons versus 24 persons from A group). When traumas during childhood had been present, PD symptoms were absent in equal number of patients from both groups (4/4), but moderate and severe PD symptoms occurred twice as common in B group (16 versus 8 from A group).

Similar, but much stronger tendency occurred in connection with traumas during adulthood. While these traumas were not present, PD symptoms were also not present in 51 persons from A group and in 11 persons from B group, and moderate and severe PD symptoms were present only in 6 persons from A group and in 9 persons from B group. But when traumas during adulthood were present, PD symptoms were not present only in 8 persons from A group and in 14 persons from B group, but moderate and severe

PD symptoms were present in 26 persons from A group and in 63 persons from B group.

Depressive symptoms were much less common in both groups, but again their presence was directly connected with presence of traumas. When traumas during childhood were not present, depressive symptoms were also not present in 66 persons from A group and in 49 persons from B group. In the case of traumas during adulthood, their absence coincided with absence of depressive symptoms in 57 persons from A group and 17 persons from B group. In the presence of traumas during childhood, depressive symptoms of different severity were present in 8 persons from A group and in 13 persons from B group, but the presence of traumas during adulthood resulted in the presence of depressive symptoms in 25 persons from A group and in 45 persons from B group.

These results have revealed the importance of the influence of psychological traumas on comorbid psychiatric symptoms and confirm the strong relationship between the negative aspects of course of life and deterioration in pulmonary function. Asthma severity and exacerbations may be linked to the comorbidity of psychiatric symptoms through several pathways, including direct physiological effects of emotions and stress on the airways and the effect of emotions on self-care and contacts with other people.

CONCLUSIONS

1. In group B (severe and difficult asthma) both types of traumas were much more frequent than in the group A (aspirin-induced asthma). In this group traumas during childhood were almost twice as common (22 persons versus 12 persons). Traumas during adulthood were even more common (86 persons versus 38 persons).
2. There was statistical correlation between frequencies of both types of traumas in both research groups. In the group B sequence of traumas (presence of both types of traumas) was much more frequent than in the group A.
3. Presence of one or two types of traumas revealed statistical correlation with presence and comorbidity of PD and depressive symptoms in both research groups.

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