

Comorbidity of aspirin-induced asthma and panic disorder versus gender and presence of profound psychological traumas

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Summary

Background. The author examined psychiatrically a group of 100 ambulatory patients with aspirin-induced asthma (AIA). The special interest of the study was the careful analysis of the presence of panic disorder (PD) and time, context and content of different psychological traumas that the patients had throughout their lives.

Methods. 100 consecutive adults with confirmed, physician-diagnosed aspirin-induced asthma underwent psychiatric interview and assessment using M.I.N.I. 5.0, Panic And Agoraphobia Scale (PAS) and Life Inventory. Psychiatric assessment was performed by experienced liaison psychiatrist according to ICD-10 and DSM-IV diagnosis. Aspirin-induced asthma presence was assessed by pulmonologist according to NHLBI/NAEPP 2007.

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 the group of 100 patients with asthma, women were majority (66%) with higher level of anxiety symptoms than men. It may be due to specific trauma of suffering and/or death of emotionally close person, which occurred in adulthood. This kind of trauma may have impact on the development of panic disorder. Women are more exposed to this sort of trauma due to their social role.

Conclusions. It is possible, that psychological traumas affect the development, course and severity of anxiety symptoms in asthmatic patients.

asthma / panic disorder / depression / gender / trauma

INTRODUCTION

Asthma is one of most common medical problems worldwide – it is estimated that approximately 300 million people suffer from this disease in the world [1]. Psychological factors such as anxiety disorders, especially panic disorder (PD), coping mechanisms, difficult life sit-

uations, traumas and abnormal family dynamics of asthmatics may be associated with a higher risk of such asthma phenotypes, which are characterized by difficulties in treatment and increased asthma severity. One of them is aspirin-induced asthma (AIA), which may occur even in about 21% asthmatics when analysed by aspirin challenge procedures [2]. Recently in Poland its prevalence according to questionnaire study was estimated at 4.3% [3].

Psychological factors may predispose patients directly to an episode of near fatal asthma and also can be responsible for aggravating or maintaining asthma [4, 5, 6]. They may also be confused with worsening asthma resulting in a vi-

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cious circle. For example, worsening of anxiety may be confused with worsening asthma and high levels of β -agonist may be inhaled which then results in further worsening the anxiety, especially panic attacks.

The problem of asthma-PD comorbidity is sometimes regarded as especially complicated, due to some similarities of certain symptoms and its psychological consequences. The main feature of PD is the presence of recurrent, unexpected panic attacks followed by at least one month of persistent concern about having another panic attacks (in case of asthma also asthma attack), worry about the possible implications of the attack, or a significant behavioural change related to attacks. Panic attack is described as a discrete period of intense fear or discomfort, in which four (or more) of the following symptoms develop abruptly and reach a peak within 10 minutes: accelerated heart rate, sweating, trembling or shaking, sensations of shortness of breath, feeling of choking, chest pain or discomfort, nausea or abdominal distress, feeling dizzy, unsteady, lightheaded or faint, feeling of unreality or being detached from oneself, fear of losing control, fear of dying, paresthesias and chills or hot flushes. People who experience multiple panic attacks develop different psychological symptoms, which lead to a big change in life style. With PD, the individual is less able to seek proper medical care but instead tries to self-treat which, in the case of asthma, worsens the proper treatment outcome. In both, adult asthma and PD, women are majority – the reason of this fact observed worldwide remains unclear [7, 8, 9, 10, 11, 12].

In recent years some research take into account the possible role of precipitating psychological circumstances that may have an impact on onset of PD, such as traumas that began in childhood, influence of life stressors and psychiatric problems within family. Also Polish studies [13,14,15,16] confirm, that that panic attacks play a role in psychopathological response to specific trauma of suffering and/or death of emotionally close person, which occurred in adulthood. This kind of trauma may have impact on the development of panic disorder. Women are more exposed to this sort of trauma due to their social role. In all cultures worldwide women much more often actively and directly take care of sick

ones than men. This situation does not diminish the widely known influence of childhood traumas on development of psychological vulnerability that affects the whole future life of the individual.

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 aspirin-induced asthma in asthmatic patients.
2. Relationship between the presence of both kinds of traumas and gender of patients.
3. Correlation between presence of both types of traumas and also presence and intensity of PD symptoms in asthmatic patients.

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), which states that “the person experienced, witnessed, or was confronted with event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others”. But at the same time is consistent with A2 criteria of PTSD: “the person’s response involved intense fear, helplessness, or horror”.

METHOD

Participants: The sample comprised 100 adult patients with diagnosis of AIA who were assessed and treated in Department of Pulmon-

ology Jagiellonian University Medical College. There were 66 (66%) women and 34 (34%) men. The only inclusion criteria were 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).

1. M.I.N.I (Mini International Neuropsychiatric Interview). Authors: Sheehan D.V., 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 [17].
2. Panic and Agoraphobia Scale (PAS). Author: B. Bandelow, Department of Psychiatry of Goettingen, version 1999 [18]. 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. Participants were also administered the Life Inventory, which is 100-item interview that possess 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 Pearson's test were used for bivariate analyses. Categorical variables were compared using chi-squared test.

RESULTS

1. With psychiatric assessment and Life Inventory the frequency of psychological traumas during childhood and adulthood (specific trauma of suffering and/or death described above) was investigated in the cohort of 100 patients with aspirin-induced asthma (AIA). Different traumas during childhood were found in 12 patients (11 women and 1 man – see Tab. 1). Specific traumas of adulthood were found in 38 participants (33 women and 5 men – see Tab. 2).

Table 1. Gender and childhood traumas

	Trauma during childhood	
	None	Present
Women	55	11
	83%	17%
Men	33	1
	97%	3%

Table 2. Gender and adulthood traumas

	Trauma during adulthood	
	None	Present
Women	33	33
	50%	50%
Men	29	5
	85%	15%

Tab. 1 and Tab. 2 reveal that both traumas during childhood and adulthood (specific trauma of suffering) and/or death of the close one were present much more often in women than in men (11 vs 1 in the case of trauma during childhood and 33 vs 5 in the case of trauma of adulthood). There is strong statistical correlation between these outcomes. Moreover, there is also strong correlation between sequences of both types of traumas versus three other situations, mainly both types of traumas separately or lack of any type of trauma Tab. 3).

2. Intensity of panic disorder (PD) assessed by PAS and frequency of traumas during childhood in the whole cohort of patients (both women and men) – Tab. 4.

Table 3. Frequency of both types of traumas independently of the gender

Whole group		Traumas during adulthood	
		None	Present
Traumas during childhood	None	58	30
	Present	4	8

Table 4.

The whole group	Intensity of PD measured by PAS				
	Lack	Mild	Moderate and severe	Very severe	
Traumas during childhood	Lack	55 62.50%	9 10.23%	23 26.14%	1 1.14%
	Present	4 33.33%	0 0.00%	5 41.67%	3 25.00%

(chi squared Pearson's test=18.69, p=0.0003)

3. Intensity of panic disorder (PD) assessed by PAS and frequency of traumas during adulthood (specific trauma of suffering and/or death of close one) – Tab. 5.

Table 5.

The whole group		Intensity of PD symptoms measured by PAS			
		Lack	Mild	Moderate and severe	Severe
Trauma during adulthood	Lack	51 82.26%	5 8.06%	6 9.68%	0 0.00%
	Present	8 21.05%	4 10.53%	22 57.89%	4 10.53%

(chi squared Pearson's test=41.20, p=0.0000)

DISCUSSION

Traumas during adulthood were in the whole cohort of patients with aspirin-induced asthma (AIA) much more frequent than traumas during childhood. They were present in 38% of patients in the whole cohort, in 50% in subgroup of women and 15% of men (tab. 1 and Tab. 2). But it should be noticed, that in the whole cohort of AIA patients there is statistical correlation between the presence of traumas during childhood

and traumas during adulthood. Traumas during childhood were present in 12 patients and non present in 88 patients, nevertheless they were statistically present in patients who in future went through traumas of adulthood (taking care of suffering and/or dying close ones).

It seems that such situation may not be a coincidence. It is possible, that patients, who went through traumatic circumstances in childhood, may be prone to deeply involve and be more sensitive and vulnerable to another very difficult situation in adulthood. Life course epidemiology seeks to understand how determinants of psychological health interact across the span of human life and makes significant contributions to understanding complicated psychological mechanisms that may have an impact especially on aetiology of anxiety disorders and among them first of all panic disorder. It should be not forget, that traumatic events and conditions, even not consistent with A1 criteria of PTSD, are associated with high risk of development of anxiety disorders and even depression later in life.

Tab. 4 reveals, that majority of patients without traumas during childhood (55 persons) didn't also suffer from PD symptoms. In the rest of this subgroup (33 persons) only one person suffered from very severe PD intensity. But in the subgroup of AIA patients with the experience of trauma during childhood, very severe PD intensity took place three times often (in 3 persons).

Tab. 5 reveals that from 62 patients with AIA without trauma of adulthood in 51 persons PD was not present at all and very severe PD symptoms intensity also. In the rest 11 persons PD symptoms intensity was moderate (in the case of 5 persons) and moderate and severe (6 persons). But in the situation of this specific trauma presence only in 8 persons PD was not present, in 4 persons PD symptoms intensity was mild, in 22 persons moderate and severe and in 4 persons very severe. It means that there is very strong correlation between intensity of PD symptoms and this type of trauma, even if the trauma itself is not consistent with definition of trauma according to psychiatric classifications.

The psychological impact of described traumas may have an influence on the risk of PD and on worsening of asthma through many complicated mechanisms and interactions. Women seem to be especially endangered by described risk due to their social role.

RESULTS

1. Specific traumas during adulthood were present in the study cohort much more often (38 patients, 65%) than traumas during childhood (12 patients, 20%). Traumas during adulthood were more frequent among women (33 patients, 50%) than men (5 patients, 15%). Nevertheless it seems that the psychological impact of trauma of adulthood is similar in both genders.
2. There is statistical correlation between frequency of both described traumas. The experience of trauma in childhood enhances the risk of trauma in adulthood (sequence of trauma due to early sensitization).
3. Sequence of traumas or their separate presence is statistically correlated with the high risk of PD presence and PD symptoms intensity.

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