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Links between defence mechanisms and severity of symptoms of panic disorder in women and men with difficult and aspirin-induced asthma

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Summary

Background. 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 were the links between defence mechanisms used by women and men from both groups and severity of their panic symptoms.

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, Panic and Agoraphobia Scale (PAS) and Defence Style Questionnaire. Psychiatric assessement 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 in majority (74% with difficult asthma and 66% with aspirin-induced asthma), with higher level of anxiety and depressive symptoms than men. Generally in difficult asthma group significantly more often than in aspirin-induced asthma neurotic and immature defence mechanisms were used. In both groups, both in women and in men, there was strong tendency to decrease the use of mature defence mechanisms and increase the use of neurotic and immature defence mechanisms in association with increase of the severity of panic symptoms.

Conclusions. It is possible that differences in defence mechanisms used by women and men with difficult asthma affect the development, course and severity of their anxiety symptoms. This may play a special role in development of difficult asthma phenomenon.

Asthma / defence mechanisms / panic disorder / depression / gender

INTRODUCTION

In recent years the world internal medicine literature has increased the interest in psychological background of difficult, different phenotypical asthma, including difficult (refractory) and aspirin-induced asthma [1, 2, 3, 4, 5, 6, 7]. This subject was also studied in Polish interdisciplinary research works devoted to different clinical groups, including asthma, COPD and pure panic disorder (PD) [8, 9, 10]. It should bee underlined, that the concept of ego defense mechanisms has long appealed to clinicians and disappointed researchers. Based on subjective judgment, clinicians have found defenses to be a good mean of understanding emotions and their influence on life decisions, but, on the other hand, researchers have found assessments of defenses to be some-

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how unreliable – because subjective. Nevertheless, this direction of research was stimulating to reveal, for example, the effects of psychotherapy of anxiety and depressive disorders [11, 12, 13, 14, 15, 16, 17, 18, 19, 20]. It has generally been concluded that personality disturbance, especially connected with comorbid panic disorder, is associated with certain symptomatology, poor response to both pharmacological and psychological treatment and bad prognosis [21, 22, 23, 24], resulting in intensification of asthma severity – this last subject is very new, especially in literature on aspirin-induced asthma [25, 26]. Studying the relationship between normal personality traits and mental disorders is a relevant issue as it may lead to a more complete understanding of the etiology, prognosis, appropriate treatment and prevention of these conditions. Comorbidity of asthma and PD, even in first stages of PD, may suggest that neuroticism is a vulnerability factor for the development of the common illness and modifies the course of disorder increasing its severity, and problems with achieving good control during proper anti-asthmatic treatment. General personality aspects – personality disorder basically – are most consistent predictors of such bad treatment outcome.

Ego defense mechanisms are believed to function at an unconscious level to maintain homeostasis by preventing painful ideas, emotions and drives from forcing their way into consciousness. Though all defenses are thought to protect the individual from anxiety, mature defenses do not endanger interpersonal relationships or distort reality as neurotic and immature defenses do. All defenses can be presented as a hierarchy of defense styles, from mature via neurotic to immature defense styles. Maturity of defense style as measured with Defense Style Questionnaire (DSQ) has been shown to be associated with maturity of ego development, as well as with various measures of mental health – comorbid difficult asthmas [22] and PD in this research situation.

GOALS OF THE STUDY

This study investigated:

1. General comparison of defense mechanisms (styles) used by patients from the two research groups: difficult-refractory asthma and aspirin-induced asthma.
2. Comparison of defense mechanisms and severity of PD symptoms in women and men from the two research groups described above.

METHOD

Participants: The cohort A comprised 100 adult patients with diagnosis of AIA who were assessed and treated in the 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 comprised 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. No one 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 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 [27].
2. Panic and Agoraphobia Scale (PAS). Author: B. Bandelow, Department of Psychiatry of Goettingen, version 1999 [28]. 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: moderate and severe symptoms; 40 or more: very severe symptoms.

3. The Defense Style Questionnaire (DSQ-40) [21, 30, 31]. Authors: G. Andrews, M. Singh, M.Bond. The scale contains 40 questions (items) taking into account subsequent defense styles: suppression, task orientation, anticipation, sublimation, humor, reaction formation, undoing, inhibition, withdrawal, idealization, pseudoaltruism, projection, passive aggression, acting-out, omnipotence/devaluation, help rejecting complaining, fantasy, isolation, splitting, projective identification, regression, somatization, denial, affiliation, consumption.

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

RESULTS

The column „relation" of Tab. 1 contains information whether the outcome deriving from aspirin-induced asthma (>) or difficult asthma (<) is statistically important.

DISCUSSION

The results from Tab. 1 have revealed that patients with difficult (refractory) asthma much more rarely used mature and, at the same time, much more often neurotic and immature defense mechanisms (styles) than patients with aspirin-induced asthma. Within mature defenses especially important differences were present in humor and suppression. Patients with difficult asthma had much greater difficulties with achieving some distance towards their symptoms and general life situation. Both groups were similar in anticipation – it is understandable under the condition of clinical aspects of asthmatic relapses, when attacks of dyspnea may take place suddenly and different symptoms appear in very different background. The slight similarity was present also in sublimation (p=16). Sublimation is extremely individual defense style, not linked to the illness itself, but to the patient's origin, the way the patient was raised, to his/her interests, education and the life goals.

Table 1. General comparison of defense mechanisms (styles) used by patients from the two research groups: difficult-refractory asthma and aspirin-induced asthma

	Aspirin-induced asthma-medium	Difficult asthma-medium	Relation	Substantial
Mature styles				
- Humor	9.43	7.59	>	0.0074
- Sublimation	8.78	9.36	<	0.16
- Anticipation	9.38	9.48	<	0.44
-Suppression	11.0	9.3	>	0.010
Neurotic styles				
- Displacement	5.76	8.03	<	0.0010
- Pseudoaltruism	9.7	10.51	<	0.087
- Idealization	7.48	9.39	<	0.0066
- Reaction formation	8.87	9.92	<	0.63
Immature styles				
- Projection	4.96	8.59	<	0.0000
- Passive aggression	3.78	5.7	<	0.0001
- Acting-out	9.49	11.48	<	0.0053
- Isolation	4.69	7.82	<	0.0000
- Devaluation	4.6	7.21	<	0.0000
- Fantasy	6.14	8.89	<	0.0005
- Denial	5.29	5.85	<	0.18
- Withdrawal	5.29	6.63	<	0.70
- Dissociation	4.5	4.54	<	0.47
- Splitting	6.59	6.4	>	0.37
- Consumption	12.74	13.2	<	0.21
- Somatization	7.64	10.42	<	0.0002

Among neurotic defenses used often by patients with difficult asthma, the most common were idealization and displacement. Such result indicates that these patients were more naive, with relatively low social competence and psychosocial maturity.

But most differences between the patients with difficult asthma in comparison to patients with aspirin-induced asthma were connected with immature (pathological) defense styles, wherein the very occurrence of the threat is denied and the responsibility is transferred. Due to the fact that defenses are used to contain anxiety, patients with difficult asthma were more prone to fail in coping both with their illness and with problems of life. The greatest bias derived from such immature defenses as: projection, passive aggression, acting-out, isolation, devaluation, fantasy and somatization.

Under such circumstances, very interesting is the similarity of certain immature defenses between both research groups, namely: dissociation, splitting and consumption. All these defenses are regarded as central in posttraumatic stress disorder. In fact, the presence of severe stress was confirmed independently in patients with difficult and aspirin-induced asthma.

Tab. 2 and Tab. 3 indicates differences between using defenses in men and women with difficult and aspirin-induced asthma, comorbid with different severity of PD. The general tendency of all results, both in men and women, is the increase of neurotic and immature defenses according to the increase the severity of PD. Such results are in agreement with psychological concepts of PD and at the same time with psychological research upon asthma [6, 7, 8, 9, 10]. People using immature defenses may be described as deeply unsatisfied, seeking solace in daydreams or oral pleasures, unable to do anything to change things but complain and blame others. The tendency to see the origin of one's problems in other people and the need for instant relief and gratification creates a vicious circle, having the impact on the whole emotional life and endangering somatic state. The psychopathological description would include high level of anxiety, panic attacks, depression, feeling of personal inadequacy and loneliness, uneasiness with people and, in the worst case, even psychotic decompensation.

This tendency has been confirmed by comparison of results, when the symptoms of PD are present neither in men nor in women. Defenses used by patients from the two research groups,

Table 2. Intensity of defense mechanisms (styles) and presence of PD (measured by PAS) symptoms in women and men with aspirin-induced asthma

PAS	Aspirin-induced asthma-women			Aspirin-induced asthma-men		
	Mature	Neurotic	Immature	Mature	Neurotic	Immature
Lack of symptoms	41.1 (33=33%)	31.5 (33=33%)	67.0 (33=33%)	41.2 (26=24.5%)	29.3 (26=24.5%)	74.7 (26=24.5%)
Medium symptoms	29.2 (5=5%)	27.6 (5=5%)	64.2 (5=5%)	40.0 (4=3.7%)	26.5 (4=3.7%)	76.0 (4=3.7%)
Moderate symptoms	36.4 (24=24%)	34.8 (24=24%)	84.6 (24=24%)	39.5 (4=3.7%)	41.0 (4=3.7%)	104.5 (4=3.7%)
Severe symptoms	23.3 (4=4%)	34.3 (4=4%)	98.3 (4=4%)	lack	lack	lack

suffering from asthma but not comorbid with PD, are more mature than in the case of patients suffering from severe PD.

CONCLUSIONS

1. Patients with difficult asthma more often used neurotic and immature defenses than patients with aspirin-induced asthma.
2. There is strong connection between the increase of neurotic and immature defenses and increase of severity of PD in both research groups. This tendency is present in both men and women.
3. There is a possible link between using neurotic and immature defenses and the severity of asthma.

Table 3. Intensity of defense mechanisms (styles) and presence of PD (measured by PAS) symptoms in women and men with difficult asthma

PAS	Difficult asthma – women			Difficult asthma – men		
	Mature	Neurotic	Immature	Mature	Neurotic	Immature
Lack of symptoms	42.1 (21=21%)	33.7 (21=21%)	67.2 (21=21%)	39.3 (4=3.7%)	32.0 (4=3.7%)	80.3 (4=3.7%)
Medium symptoms	37.2 (5=5%)	36.8 (5=5%)	99.4 (5=5%)	39.8 (4=3.7%)	24.0 (4=3.7%)	80.3 (4=3.7%)
Moderate symptoms	33.0 (38=38%)	42.3 (38=38%)	100.6 (38=38%)	35.1 (16=15%)	36.0 (16=15%)	113.5 (16=15%)
Severe symptoms	31.9 (14=14%)	40.1 (14=14%)	116.3 (14=14%)	34.3 (4=3.7%)	37.8 (4=3.7%)	109.3 (4=3.7%)

REFERENCES

1. Cox BJ, Afifi TO, Belik SL, Sareen J. Does co-morbid depressive illness magnify the impact of chronic physical illness? Psychol Med. 2006. p. 587–596.
2. Kullowatz A, Kanniess F, Dahme B, Magnussen H, Ritz T. Association of depression and anxiety with health care use and quality of life in asthma patients. Resp Med. 2007; 101: 638–644.
3. Scott KM, Korff von M, Ormel J, Zhang M, Bruffaerts R, Alonso J, Kessler RC, Tachimori H, Karam E, Levinson D, Bromet EJ, Posada-Villa J, Gasquet I, Angermeyer MC, Borges G, Girolamo G, Herman A, Haro JM. Mental disorders among adults with asthma: results from the World Mental Health Survey. Gen Hosp Psychiat. 2007; 29: 123–133.
4. Schneider A, Loewe B, Meyer FJ, Biessecker K, Joos S, Szecsenyi J. Depression and panic disorder as predictors of health outcomes for patients with asthma in primary care. Resp Med. 2008; 102: 359–366.
5. Kewalramani A, Bollinger ME, Postolache TT. Asthma and mood disorders. Int J Child Health Dev. 2008; 1(2): 115–123.
6. Alvarez GG, FitzGerald JM. A systematic review of the psychological risk factors associated with near fatal asthma or fatal asthma. Respiration. 2007; 74: 228–236.
7. Halimi L, Vachier I, Varrin M, Godard P, Pithon G, Chanez P. Interference of psychological factors in difficult-to-control asthma. Resp Med. 2007; 101: 154–161.
8. Potoczek A, Niżankowska-Mogilnicka E, Bochenek G, Szczeklik A. Związki pomiędzy zespołem lęku napadowego, depresją, mechanizmami obronnymi, koherencją i funkcjonowaniem rodzinnym u pacjentów z rozpoznaniem astmy ciężkiej. Psychiatr Pol. 2006; 6: 1097–1116.
9. Potoczek A, Niżankowska-Mogilnicka E, Bochenek G, Szczeklik A. Związki pomiędzy zespołem lęku napadowego, depresją, mechanizmami obronnymi, koherencją i funkcjonowaniem rodzinnym u pacjentów z rozpoznaniem ciężkiej POCHP. Psychiatr Pol. 2008; 5: 731–748.
10. Potoczek A. Związki pomiędzy przewlekłością choroby, nasileniem objawów lękowych i depresyjnych a mechanizmami obronnymi, koherencją i funkcjonowaniem rodzinnym u pacjentów z rozpoznaniem zespołu lęku napadowego. Psychiatr Pol. 2010; 1: 101–116.
11. Akkerman K, Carr V, Lewin T. Changes in ego defenses with recovery from depression. J Nerv Ment Dis. 1992; 180: 634–638.
12. Kneepkens RG, Oakley LD. Rapid improvement in the defense style of depressed women and men. J Nerv Ment Dis. 1996; 184: 358–361.
13. Carrera M, Herran A, Ramirez ML, Ayestaran A, Sierra-Biddle D, Hoyuela F, Rodriguez-caho B, Vazquez-Barquero JL. Personality traits in early phases of panic disorder: implications on the presence of agoraphobia, clinical severity and short-term outcome. Acta Psychiat Scand. 2006; 114: 417–425.
14. Serrano J, Plaza V, Sureda B, de Pablo J, Picado C, Bardagi S, Lamela J, Sanchis J. Alexithymia: a relevant psychological variable in near-fatal asthma. Eur Respir J. 2006; 28: 296–302.
15. Bond M, Gardner S, Christian J, Sigal JJ. Empirical study of self-sated defense styles. Arch Gen Psychiat. 1983; 40: 333–338.
16. Vaillant GE, Bond M, Vaillant CO. An empirically validated hierarchy of defense mechanisms. Arch Gen Psychiat. 1986; 43: 786–794.
17. Andrews G, Pollock C, Stewart G. The determination of defense style by questionnaire. Arch Gen Psychiat. 1989; 46: 455–460.
18. Gobbard GO. Psychiatria psychodynamiczna w praktyce klinicznej. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego; 2009.
19. Grzegołowska-Klarkowska HJ. Mechanizmy obronne osobowości. Państwowe Wydawnictwo Naukowe; 1986.
20. Sammallahti PR, Holi MJ, Komulainen, Aalberg VA. Comparing two self-reported measures of coping – The Sense of Co-

herence Scale and The Defense Style Questionnaire. Journal of Clinical Psychology. 1996, 52(5): 517–524.

21. Światowa strategia rozpoznawania, leczenia i prewencji astmy. Medycyna Praktyczna. 2009; 5:
22. Holgate ST, Boushey HA, Fabbri LM. Difficult asthma. Londyn, Martin Dunitz Ltd. The Livery House; 1999.
23. Astma ciężka i trudna. Zasady systemu opieki medycznej dla chorych na astmę oskrzelową o ciężkim przebiegu. Raport projektu celowego realizowanego w latach 2001-2003 na zamówienie Ministra Zdrowia przez KBN. Realizator: II Katedra Chorób Wewnętrznych CM UJ. Kierownik projektu: prof. dr hab. med. Andrzej Szczeklik.
24. Jenkins C, Costello J, Hodge L. Systematic review of prevalence of aspirin induced asthma and its implications for clinical practice. BMJ. 2004; 328(7437): 434.
25. Kasper L, Sladek K, Duplaga M, Bochenek G, Liebhart J, Gladysz U et al. Prevalence of asthma with aspirin hypersensitivity in the adult population of Poland. Allergy. 2003; 58(10): 1064–1066.
26. M.I.N.I.5.0.0 Polish Version (DSM-IV), Lecrubier Y, Weiller E, Hergueta I, Amorim P, Bonora LI, Lepine JP (Inserm-Paris, France) Sheehan D, Janavs J, Baker R, Sheehan KH, Knapp E, Sheehan M (University of South Florida-TAMPA, USA), 1998. Polish translation: Masiak M, Przychoda J. (Katedra i Klinika Psychiatrii Akademii Medycznej w Lublinie, Poland).
27. Bandelow B. Panic and Agoraphobia Scale (PAS). Seattle, Toronto, Bern, Goettingen: Hogrefe and Huber Publishers; 1999.
28. Parnowski T, Jernajczyk W. Inwentarz Depresji Becka w ocenie nastroju osób zdrowych i chorych na choroby afektywne. Psychiatr Pol. 1977; 11(4): 417–421.
29. Andrews G, Singh M, Bond M. The Defense Style Questionnaire. J Nerv Ment Dis. 1993; 181: 246–256.
30. Bogutyn T, Kokoszka A, Pałczyński J, Holas P. Defense mechanisms in alexithymia. Psychol Rep. 1999; 84: 183–187.
31. Kokoszka A, Roman J, Bryła L, Grabowski A. Związki poprawy objawowej ze zmianą mechanizmów obronnych w trakcie leczenia zaburzeń nerwicowych. Doniesienie wstępne. Psychoterapia. 2003; 1(124): 55–60.