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Short Communication

Panic symptoms in schizophrenia: Comorbidity and clinical correlates

HALIS ULAS, MD, KOKSAL ALPTEKIN, MD, BERNA BINNUR AKDEDE, MD, MEVHIBE TUMUKLU, MD, YILDIZ AKVARDAR, MD, PhD, ARZU KITIS, MD AND SELMA POLAT, MD
Department of Psychiatry, Medical School of Dokuz Eylül University, Izmir, Turkey

Abstract The aim of the present study was to investigate the prevalence of panic attack (PA) and panic disorder (PD) in patients with schizophrenia and detect the clinical features. Forty-nine patients with schizophrenia were included in the study. Positive and Negative Syndrome Scale (PANSS), Hamilton Depression Rating Scale (HDRS), Clinical Global Impression (CGI), Extrapyramidal Symptom Rating Scale (ESRS) and Bandelow Panic and Agoraphobia Rating Scale were administered. Fifteen patients were found to have PA and seven patients had PD. Patients with panic symptoms had higher scores of PANSS, HDRS, CGI and ESRS. Comorbid panic symptoms in schizophrenia may be related to positive symptoms, extrapyramidal side-effects and depression.

Key words clinical features, comorbidity, panic attacks, panic disorder, PANSS, schizophrenia.

INTRODUCTION

Lifetime prevalence rates for panic attack (PA) without agoraphobia (AG) have been reported to be 6.5%–22.7%, 0.85% for PA with AG without panic disorder (PD) and 0.4%–3.7% for PD without AG in the general population.[1–6] Population studies examining psychosis and PA suggest that they may be commonly associated. Comorbid PA in schizophrenia was reported to be 28–63%.[7–13]

National Comorbidity Survey reported high rates of panic disorder among patients with non-affective psychosis. Those with non-affective psychosis were sevenfold more likely than the general population to have PD.[14]

It was suggested that PA was related to higher doses of antipsychotic drugs.[8,9] Comorbidity of PA and PD may aggravate symptoms of schizophrenia and make the treatment more difficult.[15]

PA are associated with significant functional impairment, risk of psychiatric comorbidity and suicidal ideation and behavior both when they occur alone and when they co-occur with other psychiatric disorders.[15–17]

The aim of the present study was to investigate the prevalence of PA and PD among patients with schizophrenia and evaluate the clinical features.

METHODS

Sample

Forty-nine patients (23 women and 26 men), who met DSM-IV criteria for schizophrenia were consecutively enrolled in the study. They were assessed with a questionnaire addressing sociodemographic and clinical characteristics. The study was approved by the ethics review committee of Medical School of Dokuz Eylül University.

Instruments

The volunteers were interviewed by a psychiatrist using the panic and substance abuse modules of Structured Clinical Interview for DSM-IV (SCID) in order to ascertain the existence of comorbid PA or PD and substance abuse.[18] Positive and Negative Syndrome Scale (PANSS),[19] Hamilton Depression Rating Scale (HDRS),[20] Clinical Global Impression (CGI)[21] and

Correspondence address: Koksal Alptekin, MD, Dokuz Eylul Universitesi, Tip Fakultesi Psikiyatri AD., 35340 Inciralti/Izmir, Turkey. Email: koksal.alptekin@deu.edu.tr

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Extrapyramidal Symptom Rating Scale (ESRS)[22] were administered to all individuals to measure the difference in severity of psychopathology between patients with and without PA. Bandelow Panic and Agoraphobia Rating Scale (BPARS)[23] was administered to the patients with PA.

Statistical analysis

All statistics were analyzed using SPSS version 11.0 (SPSS, Chicago, IL, USA). Categorical variables were compared using χ^2 test, and Mann–Whitney *U*-test was used for continuous variables.

RESULTS

Patients had a chronic course of illness (duration of illness 16.00 ± 10.54 years). Panic symptoms of all patients were occurred after the diagnosis of schizophrenia. None of them had acute psychotic exacerbation over the last month. All patients were on antipsychotic treatment. Only two patients with PA and four patients without PA were using typical antipsychotic. All the others were on atypical agents. Fifteen patients (31%) with schizophrenia had PA and seven patients (14%) met criteria for PD. Sociodemographic and clinical characteristics of patients with and with out PA are given in Table 1.

The number of male patients with PA or PD was twofold higher than that of female patients. There was no relationship between PA and suicidality and substance abuse. Early onset patients (<18 years) had more frequent PA compared to late-onset patients ($P = 0.003$). No difference between typical and atypical antipsychotic was seen in relation to PA and BPARS scores.

Table 1. Patient characteristics

	PA (+) $n = 15$ (31%)	PA (–) $n = 34$ (69%)
Age (years)	35.2 ± 1.6	41.2 ± 11.3
Age at onset (years)	17 ± 7.2	26.4 ± 10*
Duration of illness (years)	18.9 ± 12.5	14.7 ± 9.4
Education (years)	12 ± 3.6	11.7 ± 4.5
No. suicides	1.5 ± 1.9	0.6 ± 0.6
PANSS total	88.3 ± 22.7	65.3 ± 16.8*
PANSS negative	22.5 ± 8.1	18.5 ± 6.4
PANSS positive	18.1 ± 6.6	12 ± 4.4*
HDRS	15.3 ± 6.1	9.5 ± 5.7*
ESRS	19.3 ± 5.5	16.1 ± 3.5*

* $P < 0.01$. ESRS, Extrapyramidal Symptom Rating Scale; HDRS, Hamilton Depression Rating Scale; PA, panic attack; PANSS, Positive and Negative Syndrome Scale.

DISCUSSION

These results parallel findings of high rates of PA and PD in schizophrenia in previous studies.[7–13] The present findings highlight the importance of assessing comorbid panic symptoms in patients with schizophrenia. It is known that patients with PA had significant functional impairment and more service use than patients without panic symptoms.[15,17]

Bayle *et al*. reported that there was no gender difference between patients with and without PA,[6] but it has also been reported that PA was higher in female patients with schizophrenia.[11,17] In the present study the number of male patients with PA or PD was twofold higher than that of female patients, which verged on being statistically significant ($P = 0.056$).

It has been reported that suicidal ideation and substance abuse were related to PA in patients with schizophrenia[11,17] but we did not find any relationship between suicidality, substance abuse and PA in the present sample. Akvardar *et al*. demonstrated that the prevalence of substance abuse in patients with schizophrenia in Turkey is low.[24] The present findings might arise from cultural and religious characteristics of Turkish patients.

We found that patients with panic symptoms had higher PANSS, HDRS, CGI and ESRS scores. Higher PANSS and CGI scores are related to symptom severity of schizophrenia. According to the cognitive behavioral model, the likelihood of having a PA increases with hypervigilance and hyper arousal as well as with the patient's tendency to attribute physical symptoms to the presence of an external threat. In patients with schizophrenia, this perceived threat may parallel their positive symptoms; hence they already believe that something bad is going to happen even before they start experiencing the symptoms of PA. The PA then reinforces this belief that something bad is going to happen and thus begins a vicious cycle.[10] This vicious cycle may increase the positive and depressive symptoms of schizophrenia patients with PA.

We found that extrapyramidal side-effects were related to panic symptoms in patients with schizophrenia, as previously reported.[8] This relationship may be due to the drug regimen but the relationship between drug doses and panic symptoms was not assessed.

Although Bayle *et al*. did not find significant difference for schizophrenia onset between patients with schizophrenia who suffered from PA and those who did not; we found that panic symptoms were significantly

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higher in patients with early onset schizophrenia.[16] Small sample size was the primary limitation of the present study. There may be a different form of schizophrenia or a subtype of the disorder associated with PA having a worse outcome, but further studies will be needed to confirm this finding.

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