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Clear Trends in Panic Disorder with a Possibility of Suicide Risk

Ken Inoue[1*], Hisanobu Kaiya[2], Naomi Hara[3], Yuji Okazaki[4]

[1]Department of Public Health, Gunma University Graduate School of Medicine, Gunma, Japan; previously, Department of Psychiatry, Division of Neuroscience, Graduate School of Medicine, Mie University, Mie, Japan
[2]Warakukai Incorporated Medical Institution Nagoya Mental Clinic, Aichi, Japan
[3]Department of Child Neuropsychiatry, Graduate School of Medicine, University of Tokyo, Tokyo, Japan; previously, Department of Psychiatry, Division of Neuroscience, Graduate School of Medicine, Mie University, Mie, Japan
[4]Michinoo Hospital, Nagasaki, Japan; Tokyo Metropolitan Matsuzawa Hospital, Tokyo, Japan; previously, Department of Psychiatry, Division of Neuroscience, Graduate School of Medicine, Mie University, Mie, Japan

ABSTRACT: *In the Diagnostic and Statistical Manual of Mental Disorders (DSM), panic disorder is one type of anxiety disorder. There have been few detailed reports on the relationship between suicide and panic disorder. We examined the comorbidities and personality inventory tendencies in panic disorder with an increased suicide risk. Our participants were patients with panic disorder.*

We found that an increased risk of suicide must be kept in mind when treating patients with panic disorder that is accompanied by mood disorders or anxiety disorders. This study also found that such patients are thought to be "very sensitive and emotional and easily distracted", "introverted, humble and serious", and "hedonistic".

The risk of suicide must be ascertained during the treatment of panic disorder.

Key words: *Panic Disorder, Suicide, Features*

INTRODUCTION

Panic disorder is one type of anxiety disorder of anxiety disorders according to the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition Text Revision (DSM-IV-TR). Panic disorder is characterized by a variety of physical symptoms that include shaking and feeling dizzy, and the disorder involves recurrent unexpected panic attacks about which there are persistent concern. Panic disorder often follows a chronic course, and the results of our previous study (Inoue et al., 2007) suggest that the condition is often accompanied by other psychiatric disorders, such as mood disorders (mainly depression). We have reported on various aspects of panic disorder, including seasonality, multi-channel near-infrared spectroscopy (NIRS) and the details of a patient's first panic attack (Ohtani et al., 2006; Nishimura et al., 2009; Hara et al., 2012). In Japan, the annual number of completed suicides was approximately 21,000 to 24,000 from 1990-1997 according to a report of the National Police Agency of Japan (Cabinet Office, 2015), and it has been over 30,000 since 1998. In recent years, the number of suicides has decreased and has returned to the level of 1990. Psychiatric disorders have been found to be one of the main background factors in cases of suicide (Inoue et al., 2013). Therefore, suicide prevention measures (Hirata et al., 2013; Inoue & Fujita, 2013; Takeshima et al., 2015) take that psychiatric disorders into consideration have become increasingly important over the past few years. We examined the features of panic disorder with an increased suicide risk from two viewpoints in this report.

METHODS

Our participants included 253 patients with panic disorder who were seen at Warakukai Incorporated Medical Institution, Nagoya Mental Clinic. All patients met the diagnostic criteria for panic disorder (lifetime) based on the Mini International Neuropsychiatric Interview (MINI), which was conducted in accordance with DSM-IV-TR. The MINI consisted of the disorder modules in axis I in DSM-IV-TR and assessed suicide risk and antisocial personality disorder (Otsubo, 2016). The detailed contents described comorbidities (other applicable disorder modules of the MINI). In the MINI, the interviewer asks screening question 1 or 2 at the beginning of each disorder module, and the question that do not apply to the disorder can be skipped (Otsubo, 2016). Therefore, MINI is a simple structured interview method (Otsubo, 2016). Participants with and without suicidality according to the MINI were compared in terms of (1) comorbidities (other applicable disorder modules of the MINI) and (2) results on the Revised NEO Personality Inventory (NEO-PI-R). The NEO-PI-R indicated the participant's characteristics based on a five-factor model developed by Costa and McCrae (Shimonaka et al.,1998), and the detailed contents were described in terms of NEO-PI-R. The results of that comparison were statistically analyzed using the χ^2 test and the t-test using SPSS 11.0J.

Comorbidities (Other Applicable Disorder Modules of the MINI)

For the purposes of the present study, the other applicable disorder modules according to the MINI were found to be "Major depressive episode (current)", "Major depressive episode (past)", "Major depressive episode with melancholic features", "Dysthymia", "Manic episode (current)", "Manic episode (past)", "Hypomanic episode (current)", "Hypomanic episode (past)", "Panic disorder (current)", "Agoraphobia", "Social phobia (social anxiety disorder)", "Obsessive-compulsive disorder", "Post traumatic stress disorder", "Alcohol dependence", "Alcohol abuse", "Drug dependence", "Drug abuse", "Psychotic disorder (lifetime)", "Psychotic disorder (current)", "Mood disorders involving psychiatric disorder image", "Anorexia nervosa", "Bulimia nervosa", "Anorexia nervosa (Binge-eating/Purging type)", "Generalized anxiety disorder", and

*Correspondence regarding this article should be directed to: ke-inoue@med.shimane-u.ac.jp

"Antisocial personality disorder".

NEO-PI-R

NEO values are based on the following categories: Neuroticism (NEO-N), Extraversion (NEO-E), Openness (NEO-O), Agreeableness (NEO-A), and Conscientiousness (NEO-C). A high numerical value for NEO-N indicates a subject who is "very sensitive and emotional and easily distracted", and a low numerical value indicates "mental stability". A high numerical value for NEO-E indicates a subject who is "sociable, extraverted and active and fine", and a low numerical value indicates "introversion, humbleness and seriousness". A high numerical value for NEO-O indicates a subject who "reacts positively to various experiences" and a low numerical value indicates a subject whose "performing methods are decided, and realistic". A high numerical value for NEO-A indicates a subject who is "considerate and gentle", and a low numerical value indicates a subject who is "stubborn and not flexible". A high numerical value for NEO-C indicates a subject who is "sincere and orderly in everything", and a low numerical value indicates "hedonistic".

The purposes and methods of this study and the fact that personal information would be protected were explained to the participants, and this study was conducted with their written informed consent. This study was approved by the Ethical Committee of the Mie University School of Medicine and the Warakukai Nagoya Mental Clinic.

RESULTS

In the 253 patients with panic disorder (lifetime) as determined by the MINI, 47 (18.58%) were found to be at risk of suicide. This means that the participant answered "yes" to at least one of the following six questions: "Have you thought that you should die or would be better off dead in the past month?"; "Did you want to injure yourself in the past month?"; "Did you think about suicide in the past month ?"; "Have you planned suicide in the past month?"; "Have you tried suicide in the past month?"; and "Have you tried suicide in your life?".

Comorbidities (Other Applicable Disorder Modules of the MINI) (Table 1)

In the present statistical analysis of our comparison of comorbidities with panic disorder (lifetime) with and without suicidality, the following comorbidities were found to be associated with a high suicide risk: "Major depressive episode (current)" ($p < 0.05$), "Major depressive episode (past)" ($p < 0.05$), "Major depressive episode with melancholic features" ($p < 0.05$), "Dysthymia" ($p < 0.05$), "Manic episode (current)" ($p < 0.05$), "Panic disorder (current)" ($p < 0.05$), "Agoraphobia" ($p < 0.05$), "Social phobia (social anxiety disorder)" ($p < 0.05$), and "Post traumatic stress disorder" ($p < 0.05$).

Results of the NEO-PI-R (Table 2)

In the present statistical analysis of our comparison of comorbidities with panic disorder (lifetime) with and without suicidality, panic disorder with a high suicide risk was found to be associated with "significantly higher levels of Neuroticism (NEO-N)" ($p < 0.05$), and "significantly lower levels of Extraversion (NEO-E) ($p < 0.05$) and Conscientiousness (NEO-C)" ($p < 0.05$).

DISCUSSION AND CONCLUSIONS

The present results indicate that an increased suicide risk must be kept in mind when treating panic disorder accompanied by several disorders in mood or anxiety disorders. Diaconu and Turecki (Diaconu & Turecki, 2007) found that the relationship between

Table 1.
Comorbidities (other applicable disorder modules of the MINI)

	p
Major depressive episodes (current)	<0.05
Major depressive episodes (past)	<0.05
Major depressive episodes with melancholic features (current)	<0.05
Dysthymia	<0.05
Manic episodes (current)	<0.05
Manic episodes (past)	>0.05
Hypomanic episodes (current)	>0.05
Hypomanic episodes (past)	>0.05
Panic disorder (current)	<0.05
Agoraphobia	<0.05
Social phobia (social anxiety disorder)	<0.05
Obsessive-compulsive disorder	>0.05
Post traumatic stress disorder	<0.05
Alcohol dependence	>0.05
Alcohol abuse	>0.05
Drug dependence	>0.05
Drug abuse	>0.05
Psychotic disorders (lifetime)	(—)
Psychotic disorders (current)	(—)
Mood disorder with atypical psychosis	(—)
Anorexia nervosa (current)	>0.05
Bulimia nervosa (current)	>0.05
Anorexia nervosa, binge eating/purging type (current)	>0.05
Generalized anxiety disorder	>0.05
Antisocial personality disorder (lifetime)	(—)

(—): Constant, so the p value was not calculated

Table 2.
Results of the NEO-PI-R

	p
Neuroticism (N)	<0.05
Extraversion (E)	<0.05
Openness (O)	>0.05
Agreeableness (A)	>0.05
Conscientiousness (C)	<0.05

panic disorder and suicidal behavior can be explained primarily by comorbidity with depressive disorders. Bomyea et al. (Bomyea et al., 2013) found that suicidal ideation and behavior increased in cases of mood disorder comorbidity with anxiety disorder. Therefore, it is important for medical caregivers to understand that suicide risk is significant in patients with panic disorder accompanied by the mood or anxiety disorders.

The present study identified certain tendencies in participants with panic disorder with a high suicide risk, specifically that such patients are "very sensitive and emotional and easily distracted", "introverted, humble and serious", and "hedonistic". Iida et al. (Iida et al., 2011) found that some university and junior college students with anxiety and depression showed significantly high NEO-N values. There have been few reports on this aspect of panic disorder.

It is essential to ascertain the risk of suicide during the treatment of panic disorder. The present study examined comorbidities and personality inventory tendencies in participants with panic disorder with suicidality. This study of panic disorder with suicidality presents a new viewpoint. Although we did not touch on treatments here, an understanding of the current findings should be of assistance in the treatment process. This report is important not only as a contribution to the study of panic disorder but also for the purpose of suicide prevention.

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