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COMPARISON OF CLINICAL FEATURES OF PANIC DISORDER PATIENTS WITH AND WITHOUT FAMILY HISTORY OF PSYCHIATRIC DISORDERS

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Abstract

Introduction: The large goal of this study elucidates the cause of panic disorder, and medical people carry out the fundamental treatment and prevention for the disorder.

Purpose: One aim of this study was to investigate the diagnosis of psychiatric disorders (including panic disorder) in first-degree relatives of panic disorder patients. Another aim of this study was to examine the age at the onset of the first panic attack and the number of symptoms at onset in panic disorder patients in order to better understand the influence of family history of psychiatric disorders (including panic disorder).

Design: This is cross-sectional study.

Materials and Methods: The subjects were patients with panic disorder (n=149) seen at Warakukai Incorporated Medical Institution Nagoya Mental Clinic. All patients met the criteria for the diagnosis of panic disorder (lifetime) based on the Mini International Neuropsychiatric Interview (MINI), which was conducted in accordance with the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition Text Revision (DSM-IV-TR). Statistical analyses in this study were performed using one-way analysis of variance and multiple comparisons.

Results: Patients with panic disorder having a first-degree relative with panic disorder exhibited early onset of that disorder (mean difference: 6.64, <0.05), but the results suggest that having a family history of related psychiatric disorders other than panic disorder does not affect age at onset (mean difference: 0.11, >0.05). In addition, patients with panic disorder having a first-degree relative with the same disorder had a significantly greater number of symptoms during their first panic attack (mean difference: -1.90, <0.05), but results suggest that having a family history of related psychiatric disorders other than panic disorder does not affect the number of symptoms (mean difference: -0.84, >0.05).

Conclusion: These findings will help in the treatment of patients with panic disorder.

There are also several limitations to this study. In the future, we want to increase the number of samples and produce further reports.

Key words: first panic attack, age of onset, first-degree relative, family history.

Резюме

**СРАВНЕНИЕ КЛИНИЧЕСКИХ ОСОБЕННОСТЕЙ
ПАНИЧЕСКИХ РАССТРОЙСТВ У ПАЦИЕНТОВ С СЕМЕЙНОЙ
ИСТОРИЕЙ ПСИХИЧЕСКИХ РАССТРОЙСТВ И БЕЗ НЕЕ**

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Введение. Паническое расстройство или эпизодическая пароксизмальная тревожность часто имеет хроническое течение и, как известно, часто протекает с различными другими психическими расстройствами. Поэтому, данное исследование посвящено объяснению причин панического расстройства, а также их лечения и профилактики.

Цель исследования - выявление психических расстройств (включая паническое расстройство) у близких родственников пациентов с паническим расстройством. А также исследовать возраст первой панической атаки и количество симптомов при ее наступлении у пациентов с паническим расстройством, чтобы лучше понять влияние семейной истории психических расстройств (включая паническое расстройство).

Материалы и методы: Дизайн: поперечный метод исследования. Субъектами были пациенты с паническим расстройством ($n = 149$), которые наблюдались в психиатрической клинике Корпорации Варакукаи включающей Медицинский институт. Все пациенты отвечали критериям диагноза панического расстройства (в течение жизни) на основе Мини Международного Нейропсихиатрического Интервью (MINI), которое проводилось в соответствии с «Диагностическим и статистическим руководством по психическим расстройствам», четвертое издание текстового пересмотра (DSM-IV-TR). Статистический анализ в этом исследовании проводился с использованием одностороннего дисперсионного анализа с множественными переменными.

Результаты: Пациенты с паническим расстройством, имевшие близких родственников с данной патологией, обнаружили раннее начало этого расстройства (средняя разница: 6,64, $<0,05$), но результаты показывают, что наличие семейной истории связанных с психическими расстройствами, отличающихся от панического расстройства, не влияют на возраст в начале (средняя разница: 0,11, $> 0,05$). Кроме того, у пациентов с паническим расстройством, имеющих близких родственников с тем же расстройством, во время первой панической атаки было значительно больше симптомов (средняя разница: - 1,90, $<0,05$), но результаты свидетельствуют о том, что наличие семейной истории связанной с психическим расстройством, кроме панического расстройства, не влияют на количество симптомов (средняя разница: - 0,84, $> 0,05$).

Вывод: эти результаты могут помочь при лечении пациентов с паническим расстройством.

К сожалению, в этом исследовании были некоторые ограничения. Поэтому, в будущем мы хотим увеличить количество исследуемых пациентов и подготовить дополнительные отчеты.

Ключевые слова: первая паническая атака, возраст манифестации, близкие родственники, семейный анамнез.

Түйіндеме

ЖАНҰЯ ТАРИХЫНДА ПСИХИКАЛЫҚ БҰЗЫЛЫСТАРЫ БАР ЖӘНЕ ЖОҚ ПАЦИЕНТТЕРДЕГІ ҮРЕЙЛЕНУ БҰЗЫЛЫСТАРЫНЫҢ КЛИНИКАЛЫҚ ЕРЕКШЕЛІКТЕРІН САЛЫСТЫРУ

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Кіріспе. Үрейлену бұзылыстары немесе кішігірім пароксизмалды мазасыздану созылмалы ағымды болып келетін болғандықтан ол жиі басқа психикалық бұзылыстармен қатар жүретіні белгілі. Сондықтан осы зерттеу үрейлену бұзылыстары себептерін, емін, алдын-алу шараларын түсіндіруге арналған.

Мақсаты: Бұл зерттеудің мақсаттарының бірі үрейлену бұзылыстары бар науқастардың тустарында психикалық бұзылыстарға байланысты диагнозы бар жоқтығын анықтау (үрейлену бұзылыстарын қоса есептегенде). Зерттеудің тағы бір мақсаты үрейлену бұзылыстары бар науқастарда үрейлену шабуылының алғашқы пайда болу жасын және басталған кездегі белгілер санын зерттеу арқылы жанұя тарихында психикалық бұзылыстардың (үрейлену бұзылыстарын қоса есептегенде) әсерін зерттеу.

Материалдар және әдістері: Дизайн: зерттеудің көлденең әдісі. Зерттеу субъектісі болып Варакуай корпорациясының Медициналық институтының психикалық клиникасында бақылауда болған үрейлі бұзылыстары бар науқастар алынды ($n = 149$). Барлық науқастар «Психикалық бұзылыстар бойынша диагностикалық және статистикалық нұсқаулықтың» (DSM-IV-TR) төртінші қаралым, басылымы негізіне сәйкес өткізілген Кіші Халықаралық Нейропсихиатриялық сұхбат аясында барлық науқастар үрейлік бұзылыстар диагнозының критерііне сай болды. Осы зерттеуде статистикалық анализ біржақты көп үзілісті дисперстік анализді қолдану арқылы жүргізілді.

Нәтижесі: Үрейлі бұзылыстары науқастанған жақын туысқаны бар науқастарда осы патологиялық бұзылыстар ерте басталатыны байқалады. (орташа айырмасы: 6,64, $<0,05$). Бірақ нәтиже көрсеткіші бойынша жанұя тарихында психикалық бұзылыстарының болуы үрейлік бұзылыстардан ерекшеленеді, жас ерекшелігіне, басталуына әсер етпейді. (орташа айырмасы: 0,11, $> 0,05$). Сонымен қатар үрейлік бұзылыстары бар науқастарда сондай бұзылыстары бар туысқандары болатын болса, алғашқы үрейлік шабуыл кезінде белгілері көп болады. (орташа айырмасы: - 1,90, $<0,05$), бірақ нәтиже көрсеткіші бойынша жанұя тарихында психикалық бұзылыстар, үрейлену бұзылыстарынан басқа белгілер санына әсер етпейді (орташа айырмасы: - 0,84, $> 0,05$).

Қорытынды: Бұл нәтиже үрейлену бұзылыстары бар пациенттерді емдеуге көмегін тигізеді. Өкінішке орай бұл зерттеуде кейбір шектеулер қойылды. Сондықтан біз болашақта зерттелетін науқастар санын көбейтіп, қосымша есептер дайындаймыз.

Түйінді сөз: алғашқы үрейлік шабуыл, манифестация жасы, жақын туыстары, жанұя анамнезі.

Библиографическая ссылка:

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Introduction

In the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition Text Revision (DSM-IV-TR), panic disorder is a category of 'anxiety disorder' and occurs repeated and unexpected panic attacks, and trying to avoid places or situations in which a sufferer cannot escape during an attack [5]. Panic disorder often has a chronic course and is known to often coincide with various other psychiatric disorders. Previous reports [9,13] have found that panic disorder is accompanied by depression. Another study [19] determined that schizophrenia with panic disorder exhibits distinct cognitive functioning in comparison to other schizophrenia. A study by Gorka et al [7] demonstrated that heightened reactivity to unpredictable threats may be an important process in panic disorder and alcohol dependence. Kilbane et al [14] found that panic disorder with bipolar disorder may increase the risk of suicide. Another report [12] describes the rate at which panic disorder or panic attack accompanied a mood disorder. Various studies [1,3,4,8,10,11,15,16,17,21,23] have identified genes related to panic disorder. However, few studies have enrolled patients with panic disorder and a family history of psychiatric disorders. The mortality risk for panic disorder is known to be significantly higher in first-degree relatives of probands with panic disorder, but this fact is seldom discussed. Therefore, study of the genetic factors involved in panic disorder is crucial to a discussion of that condition.

The present study investigated the morbidity of psychiatric disorders (including panic disorder) in first-degree relatives of panic disorder probands. In addition, this study examined the age at the onset of the first panic attack and number of symptoms upon onset in panic disorder probands in order to clarify whether a

genetic predisposition exists in the genetically at-risk population.

Methods

Type of study: This is cross-sectional study.

Methods of selection of study participants. Our subjects were patients with panic disorder seen at Warakukai Incorporated Medical Institution Nagoya Mental Clinic. The purposes and methods of this study and the fact that personal information would be protected were explained to the subjects, and this study was conducted with their written informed consent. Specific contents of the purposes were genetic study including items of this research (family history and Mini International Neuropsychiatric Interview (MINI)). First timing of the patients for this study was performed after examining each patient in the clinic.

Data collection. The total number was 149 patients.

Data presentation. These patients met the diagnostic criteria for panic disorder (lifetime) based on the MINI, which was conducted in accordance with DSM-IV-TR. Interviews with the patients were used to confirm a positive family history of psychiatric disorders in first-degree relatives (parents, children, and siblings), so the information was based on what was recalled and reported by the patients. The patients recalled psychiatric disorders in first degree relatives as well as they possibly could in this study. Subjects who only had a potential family history, i.e., for whom "a family member may have a panic disorder but it has not been diagnosed or treated", were excluded from the analysis. Two psychiatrists confirmed the results of the MINI and the information on psychiatric disorders in first degree relatives obtained from patients in this study.

Data analysis. In both parts of the study, the

age of onset of the first panic attack and the number of symptoms at the first panic attack were statistically analyzed according to family history. Statistical analyses in the present study were performed using one-way analysis of variance (ANOVA) and Bonferroni test for multiple comparisons using SPSS 11.0J (SPSS Inc., Tokyo, Japan).

Ethical considerations. This study was approved by the Ethical Committee of the Mie University School of Medicine and the Warakukai Nagoya Mental Clinic.

Results

I. The analysis was based on: [a] patients with panic disorder and no family history of psychiatric disorders (Neg-FH), [b] patients with panic disorder and a family history of panic disorder (PD-FH), and [c] patients with panic disorder and a family history of other psychiatric disorders (Other-FH).

The patients were then divided into three groups: Neg-FH, PD-FH, and Other-FH.

The Neg-FH group consisted of 119 patients with panic disorder and no family history of psychiatric disorder (including panic disorder) among their first-degree relatives; these included 36 males and 83 females with a mean age of 38.9 (SD 10.4) years. The PD-FH group consisted of 15 patients with panic disorder and a family history of panic disorder among their first-degree relatives; these included 5 males and 10 females with a mean age of 35.0 (SD 9.0) years. The Other-FH group consisted of 15 patients with panic disorder and with a family history of a psychiatric disorder other than panic disorder among first-degree relatives; these included 3 males and 12 females with a mean age of 41.1 (SD 11.8) years. Among these 15 patients, 7 had "fathers or mothers" (46.7%) who also had panic disorder, 5 had "siblings" (33.3%) with panic disorder, and 3 had "children" (20.0%) with panic disorder. A breakdown of the main psychiatric disorders noted in the families of the 15 patients with Other-FH showed that the most prevalent disorder was depression, which was identified in the families of 8 (53.3%) patients, while 1 (6.7%) patient had a family member with bipolar disorder, 2 (13.3%) patients had a family member with schizophrenia, 1 (6.7%) patient had a family member with social anxiety disorder, and 3

(20.0%) patients had a family member with another psychiatric disorder.

During the initial examination, the 149 patients with panic disorder completed a questionnaire, and the "age at onset of first panic attacks" and "number of symptoms upon onset" were determined based on their responses.

1. Age at the onset of first panic attacks in the three groups.

The mean ages at the onset of first panic attacks for the Neg-FH, PD-FH, and Other-FH patient groups are shown in the Table. The age at onset of the first panic attack in the three groups was analyzed by family history using ANOVA, and significant differences in that age were noted ($F(2, 146)=3.118, =0.047$).

Compared to Neg-FH patients, PD-FH patients experienced the onset of panic attacks at a significantly younger age (mean difference: 6.64, <0.05), while no significant differences between the Neg-FH and Other-FH groups were noted (mean difference: 0.11, >0.05).

2. Number of symptoms at the age of onset of first panic attacks in the three groups.

The mean number of symptoms at the age of onset of first panic attacks in the Neg-FH, PD-FH, and Other-FH groups are shown in the Table. The number of symptoms at the age of onset of first panic attacks in the three groups was analyzed by family history using ANOVA, and significant differences in the number of those symptoms were noted ($F(2, 146)=3.779, =0.025$).

Compared to the Neg-FH group, PD-FH patients had a significantly greater number of symptoms at the onset of panic attacks (mean difference: - 1.90, <0.05). There were no significant differences between the Neg-FH and Other-FH groups (mean difference: - 0.84, >0.05).

II. The analysis was based on: [a] patients with panic disorder and no family history of psychiatric disorders (Neg-FH), [b] patients with panic disorder and a family history of panic disorder (PD-FH), and [c] patients with panic disorder and a family history of depression (Dep-FH).

The patients were then divided into three groups: Neg-FH, PD-FH, and Dep-FH. This analysis was carried out because Dep-FH was the most patients in Other-FH.

The Dep -FH group consisted of 8 patients with panic disorder and a family history of

depression among their first-degree relatives; these included 2 males and 6 females with a mean age of 43.4 (SD 10.0) years.

The Neg-FH group and PD-FH group were the same patients as described in Study I] in Results.

During the initial examination, the 142 patients with panic disorder completed a questionnaire, and the “age at onset of first panic attacks” and “number of symptoms upon onset” were determined based on their responses.

II-1. Age at the onset of first panic attacks in the three groups

The Neg-FH group and PD-FH patients had the same mean age at the onset of panic attacks, as noted in Study I] in Results. In the Dep-FH group, the mean age at the onset of panic attacks was 32.6 (SD 7.3) years. The age at onset of the first panic attack in the 3 groups was analyzed by family history using ANOVA, and significant differences in that age were noted ($F(2, 139)=3.775, =0.025$). As in Study I] in Results, significant differences were found in Study II] in Results between the Neg-FH and PD-FH groups. No significant differences of age of onset between Neg-FH and Dep-FH groups were noted (mean difference: $-3.45, >0.05$).

II-2. Number of symptoms at the age of onset of first panic attacks in the three groups

The Neg-FH group and PD-FH patients had the same mean number of symptoms at the age of onset, as noted in Study I] in Results. In the Dep-FH group, the mean number of symptoms at the age of onset was 7.3 (SD 3.6). The number of symptoms at the age of onset of panic attacks in these three groups was analyzed by family history using ANOVA, and significant differences in that number were noted ($F(2, 139)=4.599, =0.012$).

As in Study I] in Results, significant differences were found in Study 2] in Results between Neg-FH group and PD-FH patients. No significant differences between the Neg-FH and Dep-FH groups were noted (mean difference: $-1.75, >0.05$).

Discussion

The present study yielded two findings. First, PD-FH patients had an early age of onset of the first panic attack, but our results suggest that the

family history of Other-FH (also only Dep-FH) patients did not affect age at onset. Second, PD-FH patients had a significantly greater number of symptoms during the first panic attack, but our results suggest that the family history of Other-FH (also only Dep-FH) patients did not affect the number of symptoms.

There was a report that a significantly higher proportion of patients who exhibited early-onset panic disorder had a family history of panic disorder among first-degree relatives than did patients with later-onset panic disorder in Barcelona of northeastern Spain [20]. Significant differences were not noted in the proportion of patients with early-onset and late-onset panic disorder with a family history of depression, schizophrenia, or alcohol dependence [20]. In other family study, Battaglia et al [2] found that the younger of two successive generations of 38 families with panic disorder experienced the onset of panic attacks at a significantly younger age. Goodwin and Hamilton [6] showed that early-onset fearful panic attack may be a marker of increased vulnerability to severe and persistent psychopathology and that it may be related to high rates of suicidality. Pané-Farré et al [18] showed that people who developed panic disorder reported more severe first panic attacks. These studies also yielded results showing trends largely similar to the present findings [2,6,18]. However, for the most part, they did not examine in detail the number of symptoms at the age of onset of first panic attacks in patients with panic disorder and a family history of panic disorder among first-degree relatives [2,6,18]. In addition, there have been few reports which included other viewpoints about the onset and number of symptoms of the first panic attack in patients with a family history of psychiatric disorders including panic disorder.

One previous report showed that neuroticism, lifetime history of major depression, and recent stressful life events had direct effects on the risk for the first panic attack, but gender difference and overprotection did not have direct effects [22]. The report described that genetic variables were among the strong predictor variables, and suggested that it is necessary to discuss a new path model containing genetic variables including family history in order to predict the first panic attack [22].

Table.

Age at the onset of panic attacks and number of symptoms at the age of onset of first panic attacks in the three groups.

	Neg-FH	PD-FH	Other-FH
Age at the onset of panic attacks (years)	29.2 (SD 10.1)	22.5 (SD 8.1)	29.1 (SD 8.4)
Number of symptoms at the age of onset of panic attacks (years)	5.5 (SD 2.6)	7.4 (SD 2.4)	6.3 (SD 3.0)

* <0.05

Conclusions

This study's sample size was not large, and the study may contain recall bias and family history bias. This study was also performed exactly judgment as possible as so that psychiatrists reconfirmed the diagnosis of panic disorder patients and the family information obtained from them. The present study found that familial panic disorder appears earlier than the non-familial type. In addition, the present results indicate that this tendency is specific to those with a family history of panic disorder alone, suggesting a genetic basis for panic disorder. There are several limitations in this study, but it is a valuable report from multiple viewpoints on the first panic attack in patients with a family history of panic disorder. In future reports on this topic, the number of samples should be increased.

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Conflict of interest: None

Author's contributions: Ken Inoue, Hisanobu

Kaiya, Naomi Hara and Yuji Okazaki designed the study with comments from YN. Ken Inoue analyzed the data with comments from YN. Ken Inoue, Hisanobu Kaiya, and Yuji Okazaki performed the sampling. Ken Inoue, Hisanobu Kaiya, Naomi Hara and Yuji Okazaki read and approved the report for submission.

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