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Post-Traumatic Stress Disorder in Migraine Patients: Migraine, Trauma and Alexithymia

Migren Hastalarında Travma Sonrası Stres Bozukluğu: Migren, Travma ve Aleksitimi

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ABSTRACT

Introduction: In recent studies, it has been suggested that there is a relationship between migraine headaches and post-traumatic stress disorder (PTSD). The PTSD has not been diagnosed by a clinician in these studies; the evaluation has been carried out by the screening scales. Besides, it has also been asserted that there was relationship of alexithymia with migraine and other chronic painful disorders. In this study, our aim was to investigate the prevalence of clinically-diagnosed PTSD and alexithymic features among migraine patients.

Methods: Sixty consecutive migraine patients sent from neurology clinic and 60 healthy controls having similar features constituted the sample of this study. SCID-I/CV PTSD module and the Clinician-Administered PTSD Scale (CAPS) was administered to the sample. The subjects also filled in the socio-demographic data form and the Toronto Alexithymia Scale (TAS). The level of pain perceived by the migraine patients was evaluated using a Visual Analog Scale (VAS).

Result: 17 subjects (28%) in the migraine group and 5 individuals (8.3%) in the control group were diagnosed with PTSD. Hence, PTSD was found to be statistically significantly higher in the migraine group. 25 persons in the migraine group (41.6%) and 12 in the control group (20%) scored above the TAS cutoff score in terms of alexithymic features. Alexithymia was found to be statistically significantly higher in the migraine group). In the migraine group, VAS scores of the ones with PTSD were statistically significantly higher compared to that in ones without PTSD. 94% of the persons diagnosed with PTSD in the migraine group reported that their migraine headaches started after a traumatic experience. In the migraine group, no statistically significant correlation was detected between CAPS and VAS scores in subjects with PTSD.

Conclusion: In migraine patients, PTSD and alexithymic features have been found higher than in the healthy controls. Further studies are needed to search whether the practices aimed at treating the PTSD and alexithymic features can contribute to the treatment of migraine headaches or not. *(Archives of Neuropsychiatry 2013; 50: 263-268)*

Key words: Migraine, post traumatic stress disorder, alexithymia

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ÖZET

Giriş: Son dönemdeki çalışmalarda migren baş ağrıları ile travma sonrası stres bozukluğu (TSSB) arasında bir ilişki olduğu ileri sürülmektedir. Yayınlarda TSSB tanısı klinisyen tarafından konulmamış, tarama ölçekleri ile değerlendirme yapılmıştır. Migren ve diğer kronik ağrılı bozukluklar ile aleksitimi arasında bir ilişki de ileri sürülmüştür. Bu çalışmada migren hastaları arasında klinik görüşme ile tanı konulan TSSB ve aleksitimik özelliklerin yaygınlığını araştırmak amaçlandı.

Yöntemler: Nöroloji kliniğinden yönlendirilen ardışık 60 migren hastası ve benzer özellikleri olan 60 sağlıklı kontrol çalışmanın örneklemini oluşturdu. Örnekleme SCID-I/CV TSSB modülü, klinisyen tarafından uygulanan TSSB Ölçeği (TSSB-Ö) uygulandı. Örneklem ayrıca sosyodemografik formu ve Toronto Aleksitimi Ölçeğini (TAÖ) doldurdu. Migren hastalarının algıladıkları ağrı şiddeti Görsel Analog Ölçeği (GAÖ) ile değerlendirildi.

Bulgular: Migren grubunda 17 (%28), kontrol grubunda 5 (%8,3) kişiye TSSB tanısı konuldu. Migren grubunda istatistiksel olarak anlamlı düzeyde daha yüksek oranda TSSB saptandı. Migren grubunda 25 (%41,6), kontrol grubunda 12 kişi (%20) aleksitimik özellikler açısından TAÖ kesme puanının üzerinde puan aldı. Migren grubunda aleksitimi istatistiksel olarak anlamlı düzeyde yüksek bulundu. Migren grubunda TSSB tanısı olanların GAÖ puanları TSSB olmayanlara göre istatistiksel olarak anlamlı düzeyde yüksekti. Migren grubunda TSSB saptanan kişilerin %94'ü migren başlangıç zamanını travmatik deneyim sonrası olarak bildirdi. Migren grubunda TSSB olan kişilerde TSSB-Ö puanı ile GAÖ puanı arasında istatistiksel olarak anlamlı korelasyon saptanmadı.

Sonuç: Migren hastalarında TSSB ve aleksitimik özellikler sağlıklı bireylerden yüksek bulunmuştur. TSSB ve aleksitimik özelliklerin tedavisine yönelik çalışmaların migren baş-ağrılarının tedavisine katkıda bulunup bulunmayacağını araştıran çalışmalara gereksinim vardır. *(Nöropsikiyatri Arşivi 2013; 50: 263-268)*

Anahtar kelimeler: Migren, travma sonrası stres bozukluğu, aleksitimi

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Introduction

It has been shown that there is a strong relation between migraine and psychiatric disorders (1,2). There are many studies investigating the frequency of depression (2,3), bipolar mood disorder (4,5,6), pervasive anxiety disorder (1,4,5,6), obsessive compulsive disorder (1) and panic disorder (1,7) in migraine.

Recent studies have been focused on the prevalence of post-traumatic stress disorder (PTSD) in migraine (8,9). Different studies have proposed that severe traumatic experiences including physical, emotional and sexual abuse are common in migraine (10,11,12).

Alexithymia is defined as difficulty in recognizing, differentiating and expressing emotions (13). Lanius et al. explained this relation in an article in which they evaluated the relation between alexithymia and psychological trauma in the following way: Emotional awareness is the ability of the individual to recognize and identify his/her own emotions and the emotions of other people and to think about internal affective experience. Early negative experiences markedly disrupt development of emotional awareness. Being trapped in a dangerous setting including living with a caregiver who applies chronic physical or sexual abuse prevents the individual to use emotional stimuli as a guide for the individual to realize effective actions and behavior. If a child is abused by the caregiver and feels a stimulus to escape, he/she rapidly learns that it is impossible to escape. Learned despair may emerge. Individuals with such experiences learn that emotional responses against traumatic events are in vain, because there is no escape from this situation. Therefore, they gradually disconnect from their internal emotional life. Disconnection from excessive emotions is not under their control. It is common that individuals with PTSD show difficulty in being aware of their own affective states and in identifying and labeling this state (14). Therefore, it can be thought that individuals with PTSD will have alexithymic properties with a high rate.

It has been reported that alexithymia is common in patients with chronic headache (15,16). However, there are studies which do not support this finding (17).

In this study, it was aimed to evaluate the assumption that the prevalence of PTSD and alexithymia is higher in migraine patients compared to healthy controls. In studies examining the relation between migraine and alexithymia, traumatic experiences and the diagnosis of PTSD have been determined by way of screening scales. In addition, most of these studies have not included a control group. In this study, it was aimed to make a comparison with a control group in contrast to the publications and to make a diagnosis of PTSD using standard interview scales.

Method

Sample

Approval was obtained from the ethics committee of Cumhuriyet University, Medical Faculty for the study. Patients aged between 18 and 50 years who presented to Cumhuriyet University, Medical Faculty Hospital, Neurology Outpatient Clinic between May 2010 and August 2010, who were being followed up with a diagnosis of migraine and who gave consent to participate were included in the study. Study inclusion criteria included being in the age group of 18-50 years, having a diagnosis of migraine, having the cognitive ability to conduct a structured interview and volunteering for participation in the study.

The control group consisted of individuals aged between 18 and 50 years who were visiting Cumhuriyet University, Medical Faculty Hospital wards, who stated that they had no diagnosis of migraine and who had similar sociodemographic properties as the patient group.

Data Collection Tools

Sociodemographic Data Form

Two separate sociodemographic data forms were prepared by the investigators for the migraine and control groups. The data were obtained from the subjects themselves. The subjects with a diagnosis of migraine were questioned about age, gender, marital status, education level, occupation, monthly total income, family structure, use of tobacco, alcohol, narcotic substances, use of painkillers, history of presence of previous psychiatric diagnosis, time of onset of migraine in the ones who had psychiatric disease, familial history of psychiatric diagnosis and chronic pain, presence of exposure to trauma (physical, sexual abuse, accident, exposure to natural disaster, history of recent sudden death or fatal disease and witnessing these). The subjects in the control group were asked the same questions excluding use of painkillers and time of onset of migraine.

Structured Clinical Interview for DSM-IV Axis I (SCID-I)

SCID-I is a structured clinical interview applied by the interviewer to investigate Axis I disorder diagnoses according to DSM-IV (18). The Turkish validity and reliability study of the scale which was developed by First et al. in 1997 was performed by Özkürkçügil et al.(19). In this study, SCID-I was used to make diagnostic evaluation in terms of PTSD.

Clinician-administered Post-Traumatic Stress Disorder (PTSD) Scale (CAPS)

This scale was developed by Blake et al. in accordance with investigational and clinical requirements (22). The Turkish validity and reliability study of the scale was performed by Aker et al. (22). Seventeen of the questions in the scale evaluate PTSD symptoms in DSM-III-R and the other 8 questions are included in the title of "symptoms accompanying PTSD". In addition, the scale also contains questions about the effect of the symptoms on social and occupational functionality, state of PTSD symptoms compared to the previous evaluation or compared to 6 months before, estimated validity of the evaluation and total evaluation of the severity of PTSD. The total scale score gives an idea about the severity of the disorder and is obtained by adding the scores of frequency and severity of the symptoms. It ranges between 0 and 136. In addition to a qualitative evaluation, CAPS is a scale which allows a qualitative evaluation and makes a diagnosis of current and lifelong PTSD. In cases where the frequency score of any PTSD symptom is at least 1 and the severity score is at least 2 (a total score of at least 3), the symptom is considered as "present". A diagnosis of PTSD is made with presence of at least one symptom of re-experience, three symptoms of avoidance and flattening and two symptoms of excitation.

Toronto Alexithymia Scale (TAS-20)

This scale was developed by Taylor, Bagby et al. (22). It is a scale which investigates alexithymia which is known as inability of the individual to realize and recognize his/her own emotions. It is a Likert type self-assessment scale composed of 20 items scored between 1 and 5. The individual is asked to mark the most appropriate one among the options of "never", "rarely", sometimes", "frequently" and "always". The items with number 4, 5, 10, 18 and 19 are asked reversely. High scores show high alexithymic levels. The scale includes the following subscales: difficulty in recognizing his/her own emotions (TAS-1; items 1, 3, 6, 7, 9, 13, 14), difficulty in expressing emotions (TAS-2; items 2, 4, 11, 12, 17), extraverted thinking (TAS- 3; items 5, 8, 10, 15, 16, 18, 19, 20). High scores show high alexithymic levels. The Turkish adaptation of the scale was made by Sayar et al. (23). The cut-off score was found to be 61 in the validity and reliability study.

Visual Analog Scale (VAS)

This is a scale which is used to evaluate the severity of pain. The individual is asked to evaluate the severity of pain on a visual

scale marked from 0 to 10. 0 means no pain, 1-3 mean mild pain, 4-5 means moderate pain, 6-7 mean severe pain and 9-10 means very severe pain (24).

Application

60 consecutive patients who were diagnosed with migraine in the Neurology Outpatient clinic according to the diagnostic criteria of the International Headache Society and who met the inclusion criteria were included in the evaluation. No subjects refused to participate in the study. Written informed consent was obtained form all participants. In the first stage of the study, the participants filled in a sociodemographic data form. In the second stage, SCID-I PTSD module was applied by Dr. SK. PYSD-S was applied to the patients who were diagnosed with PTSD according to SCID-I. The interviews lasted approximately for 1-1.5 hours. TAS-20 was filled in by the patients who were included in the study. The patients were asked to grade the severity of pain they perceived between 1 and 10.

Statistical Method

Parametric variables were expressed as mean ± standard deviation and categorical variables were expressed as numbers and percentages. Parametric variables were evaluated using t-test in independent groups and categorical variables were evaluated using Pearson's chi-square test and Fishers's Exact test. A p value of <0.05 was considered statistically significant. All statistical operations were performed using Statistical Package for Social Sciences (SPSS) 14.0 program.

Results

60 patients with migraine and 60 healthy volunteers without a diagnosis of migraine were included in the study. 44 of migraine patients were female (73.3%) and 16 were male (26.7%). The mean age was 33.4+8.0 years. In the control group, 45 of the subjects were female (7.5%) and 15 were male (25%). The mean age was 33.2+7.7 years. No statistically significant difference was found between the two groups in terms of mean age, gender, education level, marital status, occupation distribution, income distribution, family structure, residence and habits.

No statistically significant difference was found between the two groups in terms of history of previous psychiatric disease, familial history of psychiatric disease, familial history of chronic pain and habits.

When the migraine and control groups were compared in terms of trauma experience, no statistically significant difference was found in terms of exposure to physical and sexual abuse and history of accidents. The rates of history of witnessing trauma was statistically significantly higher in the migraine group compared to the control group (χ2:4.385, p=003) (Table 1).

When the two groups were compared in terms of presence of a diagnosis of current and lifelong PTSD, the rate of the diagnosis of PTSD was found to be significantly higher in migraine patients (χ2: 8.015, p<0.001). A diagnosis of PTSD was made in 17 subjects in the migraine group (28.3%) and in 5 subjects in the control group (8.3%).

When the two groups were compared in terms of presence of alexithymia, it was found that the number of individuals who were found to have alexithymia according to the alexithymia scale was statistically significantly higher in the migraine group compared to the control group (χ2: 6.604, p=0.01) (Tablo 2).

When the VAS scores of the subjects with and without a diagnosis of PTSD were compared in the migraine group, it was found that the VAS scores of the subjects with a diagnosis of PTSD was statistically significantly higher compared to the subjects without a diagnosis of PTSD (t=2.715, p<0.001).

When the subjects with and without a diagnosis of PTSD were compared in terms of presence of alexithymia in the migraine group, no statistically significant difference was found between the two groups (χ2: p=0.09) (Table 3).

When the 60 patients in the migraine group were evaluated in terms of previous psychiatric drugs used, 18 reported that they had a diagnosis of depression and 3 reported that they had a diagnosis of anxiety disorder. In the migraine group, 12 of 21 patients who reported that they were diagnosed with a psychiatric disease before stated that the complaint of headache developed after the psychiatric disease. 8 of these 12 patients who reported that they had been diagnosed with a psychiatric diseases before and that the complaint of headache developed after the psychiatric disease met the diagnostic criteria of current or lifelong PTSD. One of 9 patients who reported that they were diagnosed with a psychiatric disease before but the complaint of headache was present before the psychiatric disorder met the diagnostic criteria of PTSD. In the migraine group, 8 of 39 patients who reported that they were not diagnosed with any psychiatric disorder before met the diagnostic criteria of PTSD and these subjects reported that the complaint of headache started after the symptoms of PTSD.

When the time of onset of migraine was questioned to the subjects who were diagnosed with PTSD in the migraine group, 16 of 17 subjects (94%) stated that headache started after a traumatic experience. When the groups with and without PTSD in the migraine group were compared in terms of sexual abuse, accident and tendency to trauma, no statistically significant difference was found. When they were compared in terms of physical abuse, the rate of physical abuse was significantly higher in the subjects with PTSD compared to the subjects without PTSD (χ2: 12.137, p<0.001). The number of individuals who were exposed to a traumatic event was significantly higher in the subjects with PTSD in the migraine group compared to the subjects without PTSD (χ2: 14.265; p<0.001).

No statistically significant correlation was found between PTSD-S score and VAS score in the subjects with PTSD in the migraine group. When the subjects with PTSD were compared with the subjects without PTSD in the migraine group in terms of the amount of painkillers used, no statistically significant difference was found between the two groups.

Discussion

The results of this study supported the assumption that PTSD and alexithymic properties are found with a higher rate in migraine patients compared to healthy controls. When the migraine and control groups were compared, it was found that the number of reports of witnessing trauma and exposure to traumatic event was statistically significantly higher in the migraine group. The diagnosis of current and lifelong PTSD was found with a significantly higher rate in the migraine group. The number of subjects with alexithymia was significantly higher in the migraine group compared to the control group. No statistically significant difference was found between the subjects with and without PTSD in the migraine group in terms of presence of alexithymia. The VAS scores of the subjects with a diagnosis of PTSD in the migraine group were significantly higher compared to the subjects without a diagnosis of PTSD. When the subjects with and without PTSD in the migraine group were compared in terms of use of painkillers, no statistically significant difference was found between the two groups. 96% of the subjects who were found to have PTSD in the migraine group reported that the onset of headache occurred after a traumatic experience. No statistically significant correlation was found between the PTSD-S score and VAS score in the individuals with PTSD in the migraine group.

Although there are numerous numbers of patients presenting to neurology outpatient clinics with a complaint of headache, only

a few of these patients can be evaluated in terms of psychiatric disorders. The diagnosis of TSD is mostly missed because of inappropriate screening during psychiatric evaluation and avoidance of the individual in research for treatment (25).

In this study, the migraine and control groups were compared in terms of reporting of traumatic experience; no statistically significant difference was found in terms of exposure to physical abuse, sexual abuse and accident. When witnessing trauma and all traumatic experiences were evaluated, the number of reporting of exposure to trauma was found to be statistically significantly higher in the migraine group compared to the control group. Leeuw et al. (8) compared patients with migraine and tension type headache with patients with chronic jaw pain and reported that 64% of the patients with headache had one or multiple traumatic experiences and there was no difference between the groups. In this study, the rate of reporting of at least one exposure to trauma was 73.4% in the migraine group and 48.3% in the control group. The rates of traumatic experience are similar to the rates of 39%-69% reported in healthy individuals in epidemiological studies (26,27). In Turkey, Balaban et al. found the rate of PTSD to be 22.5 with screening scale and 6% with SCID evaluation in the subjects with headache among students of faculty of medicine. The rate of PTSD was found to be 12.9% with screening scale and 0% with SCID evaluation in students without migraine (28). It can be thought that these rates are low when compared to the rate of traumatic experience which was found to be 90% by Breslau et al. in a population sample composed of 2181 subjects (29). The fact that Breslau et al. interviewed with the subjects by phone and the properties of the sample might have changed the results.

The rates of reporting of exposure to sexual abuse were found to be 5% in the migraine and control groups. This rate is lower compared to the rate of reporting of exposure to sexual abuse (25%-35%) in patients with a diagnosis of chronic headache in other studies (11,30). This difference may be related with the smaller sample size compared to the other studies and the difference in the method and sample.

Peterlin et al. reported that 2% of migraine patients were exposed to traumatic event directly and 95% witnessed a traumatic event or learned about it (30). In another study performed by Peterlin et al. in which patients with a diagnosis of episodic migraine and chronic migraine were compared, it was found that the rate of the subjects who reported at least one traumatic experience was not different in patients with a diagnosis of episodic migraine and chronic migraine, but the number of reporting of traumatic experience was statistically significantly higher in patients with chronic migraine compared to patients with episodic migraine (9). In this study, reporting of direct exposure to traumatic event was divided into the groups of physical abuse, sexual abuse and having an accident in the direction of trauma experiences reported by the sample. Reporting of witnessing trauma was evaluated in a separate group independent of the quality of trauma. It could be not compared if witnessing trauma was observed more frequently in migraine, since a similar grouping was not used as in the publications. However, a statistically higher rate of witnessing trauma and multiple traumatic experiences can be interpreted such that migraine patients had more traumatic experiences by way of witnessing or learning, though no difference was found in direct exposure to trauma in migraine patients compared to the control group.

The diagnosis of PTSD was found to be statistically significantly higher in the migraine group. Peterlin et al. found the prevalence of PTSD to be 22.v4% in patients with episodic migraine and 30.3% in patients with chronic migraine among 767 patients with a diagnosis of migraine and reported that this rate was higher compared to the general population (30). In another study, Peterlin et al. divided 60 patients with a diagnosis of migraine into two groups as episodic and chronic migraine and found PTSD with a rate of 43% in chronic migraine and with a rate of 9% in episodic migraine (9). In both studies of Peterlin et al., migraine patients were not compared with the control group and the results were interpreted by making comparison with the prevalence of PTSD which was reported to be 9%-14% in the general population (29). The results of this study are important in that they supported the findings that the prevalence of PTSD was high in migraine patients and a comparison with the control group was made.

Although Post-traumatic stress disorder checklist-civilian version (PCL-C) which is applied in the majority of other studies investigating the prevalence of PTSD and which is filled in by the patients themselves shows a high specificity and sensitivity, it is not gold standard in studies investigating PTSD, since it is not applied by clinicans. In this study, traumatic experiences were questioned with Post-traumatic Stress Diagnostic Scale to prevent missing the diagnosis of PTSD and SCID-I PTSD module was applied. In patients in whom a diagnosis of PTSD was made according to SCID-I, PTSD-S was applied by the clinician.

A cause-effect relation could not be established between migraine and PTSD, since a cross-sectional examination was made in the study. However, it is remarkable finding that 16 (94.1%) of 17 patients in whom PTSD was found in the migraine group stated that headache started after a traumatic experience. In a study performed by Gretchen et al. in which childhood traumas were examined in patients with a diagnosis of migraine, it was reported that childhood traumas could be a risk factor for occurrence of migraine (31). Fuh et al. reported that physical abuse in the childhood might lead to a tendency to migraine in adolescents with a diagnosis of migraine (32). In the trauma-migraine relation, age at the time of exposure to trauma, gender and genetic factors have been reported to affect development of migraine (33). The relation between trauma and migraine was investigated retrospectively also in these studies. Prospective studies are needed to elucidate the potential cause-effect relation between migraine and PTSD.

The number of subjects with alexithymia was found to be statistically significantly higher in the migraine group compared to the control group. Although there are many studies showing the relation between chronic pain and alexithymia, there is limited number of studies investigating the prevalence of alexithymia in migraine (34). Okasha et al. compared 100 patients with chronic, non-organic headache with 50 healthy controls and 50 patients with organic headache and found the patients with chronic headache to be more alexithymic compared to the other two groups (35). Müftüoğlu et al. compared 50 patients with a diagnosis of migraine with the control group and found that the migraine group was more depressive, anxious and alexithymic compared to the control group and alexithymia was significantly correlated with anxiety, though not with depression (36). The finding of Müftüoğlu et al. that alexithymia was prevalent in migraine was similar to the finding of our study.

Yaluğ et al. investigated the rates of alexithymia, depression and anxiety in patients with migraine and reported that depression was observed with a higher rate in chronic migraine compared to episodic migraine and alexithymia was significantly correlated with depression and anxiety in both groups (34). It can be thought that limitation in the activities of daily living as well as continuous perception of pain in migraine patients lead to a tendency to depression. Considering that the psychiatric disorder may affect the alexithymic state (37), the fact that other psychiatric disorders were not examined is a limitation of this study. Lack of investigation of the migraine and control groups in terms of depression and anxiety caused to lack of comparison of the association of psychiatric diseases with alexithymia which has been mentioned in

Table 1. Comparison of the migraine group and control group in terms of trauma experience

	Migraine group		Control group			
	number	%	number	%	χ2	p
Exposure to physical violence						
No	32	53.3	38	63.3	1.23	0.26
Yes	28	46.7	22	36.7		
Sexual abuse						
No	57	95	57	95	-	-
Yes	3	5	3	5		
History of accident						
No	39	65	45	75	1.42	0.23
Yes	21	35	15	25		
History of witnessing trauma						
No	33	55	44	73.3	4.38*	0.03*
Yes	27*	45	16	26.7		
Exposure to traumatic event						
None	22	36.7	31	51.7	6.11*	0.04*
Yes, one	19*	31.7	21	35		
Yes, 2 or more	19*	31.7	8	13.3		

*χ2:4.38, p=0.03; *χ2: 6.11, p=0.04

Table 2. Comparison of the two groups in terms of presence of PTSD and alexithymia

	Migraine group		Control group			
	number	%	number	%	χ2	p
PTSD						
Yes	17*	28.3	5	8.3	8.01*	0.001*
No	43	71.7	55	91.7		
Alexithymia						
Yes	25*	41.6	12	20	6.60*	0.01*
No	35	58.3	48	80		

*χ2: 8.01, p<0.001; *χ2: 6.60, p=0.01

Table 3. Comparison of the subjects with and without a diagnosis of PTSD in the migraine group in terms of presence of alexithymia

Migraine group	PTSD (+)		PTSD (-)	
	n	%	n	%
Alexithymia				
Yes	10	16.6	15	25
No	7	11.6	28	46.6

χ2: 2.873, p>0.05

publications frequently (38,39). However, it is difficult to say that alexithymic individuals could apply the scales which were based on verbal expression of emotions accurately in studies which showed this association. In evaluation of psychiatric disorders in alexithymic individuals, non-verbal communications should also be considered in addition to verbal communication (34).

As a result of difficulty in differentiating emotions and frequent interpretation of emotional excitation as physical disease in alexithymic individuals, treatment is searched in other areas than psychiatry (40). Clinicians in these areas do not request psychiatric consultation because of absence of a clear psychiatric disorder in alexithymic individuals and detailed investigations and inappropriate therapies are performed most of the time. Therefore, it can be interpreted that alexithymia is common in migraine and evaluations should be done in this point of view independent of the cause-effect relation between alexithymia and migraine.

In the study, no statistically significant difference was found between the subjects with and without a diagnosis of PTSD in the migraine group in terms of presence of alexithymia. This finding contradicts with the study of Frewen et al. in which a significant and positive relation was found between PTSD and alexithymia (41). Considering the studies which reported that alexithymia might be a risk factor in development of PTSD (42,43), absence of a similar finding in this study may be related with the insufficient number of migraine patients (17 individuals) who were found to have PTSD for comparison. This study was not specifically focused on childhood traumas. These kinds of experiences are frequently not expressed by patients, unless inquired specifically due to the nature of trauma. Studies specifically focused on childhood traumas may provide more information about the relation between alexithymia, migraine and PTSD.

Limitations

Since a cross-sectional examination method was used in this study, a cause-effect relation could not be established between migraine and PTSD and migraine and alexithymia. Prospective studies are needed to elucidate the potential relation between them.

Another limitation of the study was the fact that psychiatric disorders except for PTSD were not evaluated in migraine patients.

Conclusion

Conclusively, the results of this study suggest that history of trauma should be taken carefully since PTSD was observed commonly in migraine patients and more severe pain was reported by the subjects with PTSD and that emotional excitation can be interpreted as physical disease in patients with migraine because of frequent association of migraine with alexithymia and these patients should be evaluated by a psychiatrist. In addition, the findings of this study brings forth the question if treatment of PTSD in patients with migraine will change the presence and severity of headaches in migraine. Multi-center studies with large sample sizes are needed to generalize the results of this study.

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