Most Common Psychiatric Disorders as Migraine Comorbidities

Denis Jevdokimov¹, Natalija Agejeva¹ and Ligita Smeltere²
1. Pauls Stradiņš Clinical University Hospital, Pilsonu Street 13, Riga, Latvia
2. Outpatient Clinic “Veselības centrs 4”, Kr. Barona Street 117, Riga, Latvia

Abstract: Last studies have found that migraine is common with other diseases. These cases are called "comorbidities", which means that they occur in parallel and are likely to affect a migraine. There are studies showing a link between migraine and major depression, bipolar disorder, and anxiety disorders. The general aim of the study is to identify psychiatric comorbidities of migraine and its clinical pattern.

Key words: Migraine, aura, psychiatric, comorbidities, prevalence.

1. Introduction

Migraine is a neurological illness which main pathophysiological mechanism is neurogenic sterile inflammation. It's common in young people and women. Prior studies have found that migraine occurs together with other illnesses at a greater coincidental rate than is seen in the general population. These occurrences are called “comorbidities” which means that these disorders are interrelated with migraine. Identifying and defining migraine comorbidities are significant because it can help to discover new pathophysiological mechanisms in migraine and to improve the treatment plan in future. Migraine comorbidity groups defined as: cardiovascular, neurological, autoimmune and psychiatric [1].

The relationship between migraine and psychiatric disorders remains of growing interest to headache researchers and clinicians alike. Though variability exists among studies regarding prevalence rates, most indicate that migraineurs are 2 to 5 times more likely to be diagnosed with a depressive or anxiety disorder [2].

There are some theories and hypotheses how migraines may be associated with psychiatric disorders. First of all, the proposed mechanism is the shared serotonergic dysfunction between migraine and affective disorders. Plasma level of serotonin was decreased between migraine attacks and increased during migraine attacks [1, 3]. Secondly, migraine and depression were 2–3 times more common in women than in men, with a similar monthly fluctuation. As the ovarian hormones change, particularly the estrogen decline, they may induce down-regulation of the serotonergic system and up-regulation of the sympathetic system, and result in the co-existence of migraine and affective problems [1]. Third, dysregulation of the hypothalamic pituitary adrenal (HPA) axis was noted in both depression and migraine. It is hypothesized that activation of the HPA axis with reduced serotonin synthesis may be the link between affective disorders, migraine and obesity [1, 4].

2. Aim of the Research

The general aim of the study is to identify psychiatric comorbidities of migraine and its clinical pattern.

3. Materials and Methods

A retrospective study was performed, analyzing 100 migraineurs ambulatory medical records including...
headache questionnaires (clinical interview data), medical imaging results and patient self-questionnaires. Patients were consulted at the Headaches Center in outpatient clinic "Veselības centrs 4" in 2018-2019. IBM SPSS Statistics 22.0 software was used for statistical data analysis.

4. Results and Discussion

A total of 100 patients with migraine were enrolled in our research. Out of 100 patients, 88 were female (88%) and 12 were male (12%). The age of the patients ranged from 17 to 66 years (M = 37.34; SD = 11.01). The mean age of male was 34.25 years (SD = 5.97). The mean age of female was 37.76 years (SD = 11.48). Of the total number of patients 31% had migraine with aura (n = 31) and 69% - migraine without aura (n = 69). Of the 31 patients with a migraine with aura 5 were found to be male and 26 were female.

Overall psychiatric comorbidities were observed in 37% of patients (n = 37). Of these 37 patients: 28 had migraine without aura (76%) and 9 had migraine with aura (24%).

The most common psychiatric comorbidity was depression with prevalence 26% in cohort. This prevalence corresponds to figures in the literature, which range from 8.6% to 47.9% [3, 4]. The mean age of patients is 36.04 years (Me = 36 years; SD = 9.31). In 31% of patients (n = 8) diagnosis was - migraine with aura and 69% (n = 18) - migraine without aura.

Panic disorder was identified in 24% of total count of patients (n = 24), of which 21 were female and 3 was male. This prevalence corresponds to figures in the literature, which range from 16.54% to 58% [5, 6]. The mean age of patients is 37.48 years (Me = 34.25 years; SD = 9.38). In 29% of patients (n = 7) the diagnosis was migraine with aura and 71% - migraine without aura (n = 17).

Phobia was diagnosed in 4% of patients with migraine (n = 4). The mean age of patients was 41.5 years (Me = 40 years; SD = 11.24). 3 patients had migraine with aura (75%) and 1 - migraine without aura (25%).

5. Conclusions

The total prevalence of psychiatric comorbidities in migraine cohort is 37%. The dominant clinical type of migraine in patients with psychiatric comorbidities is migraine without aura (76%). The prevalence of each migraine psychiatric comorbidity: depression – 26%; panic disorder – 24%; phobia – 4%.

References

[1] Wang, S. J., Chen, P. K., Fuh, J. L. 2010. “Comorbidities of migraine.” Front Neurol 1:16. Published 2010 Aug 23. doi:10.3389/fneur.2010.00016.
[2] Smitherman, T. A. 2011. “Psychiatric Comorbidity and Migraine.” Headache http://www.headachejournal.org/view/0/PsychiatricComorbidityandMigraine.html.
[3] Hamel, E. 2007. “Serotonin and Migraine: Biology and Clinical Implications.” Cephalalgia 27 (11):1293-1300. https://journals.sagepub.com/doi/10.1111/j.1468-2982.2007.01476.x
[4] Lipton, R. B., Bigal, M. E., Diamond, M., Freitag, F., Reed, M. L., Stewart, W. F. 2007. “Migraine prevalence, disease burden, and the need for preventive therapy.” Neurology. 68: 343-349. https://n.neurology.org/content/68/5/343.long
[5] Minen, M. T., Begasse De Dhaem, O., Kroon Van Diest A. et al. 2016. “Migraine and its psychiatric comorbidities.” J Neurol Neurosurg Psychiatry 87: 741-749.
[6] Rammohan, K., Mundayadan, S. M., Das, S., Shaji, C. V. 2019. “Migraine and mood disorders: Prevalence, clinical correlations and disability.” J Neurosci Rural Pract 10: 28-33.