The impact of bleeding patterns and hormonal contraceptives on migraine headache: a retrospective cross-sectional study

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Introduction

Migraine is one of the most common!prceptional headache d!ses with typical clinical features [1]. The two major subtypes of migraine are migraine without aura (M0) and migraine with aura (MA). The 1-year prevalence of migraine in adults is between 15% and 18% [2].

Menstrual migraine (MM) without aura affects approximately 20% of female migraineurs in the general population. [3] The etiology and pathomechanism of MM is still unclear. Menses is a well-known trigger factor for MM. Clinical studies revealed an increased incidence of migraine attacks in conditions with falling levels of plasma oestrogen in the menstrual cycle and the use of combined oral contraceptives (COC) [4]. The purpose of the present study was to describe the contraceptive practice and menstrual pattern of women with migraine and to analyse the effect of COC use and bleeding pattern on the influencing of migraine course

Patients and methods

The questionnaire-based study have been performed in the Outpatient Unit of Department of Neurology, Szeged, Hungary. We invited women with M0 and MA to participate in the questionnaire-based study. We collected data in two time periods: between 2006-2009 and 2013-2014 and we received the answers via 3 ways: clinical interviews, online and postal way.

All participants (n=186) completed a questionnaire containing 25 items compiled by our research team based on our clinical practice and recent international literature research. The questions referred to socio-demographic characteristics, the menstruation cycle pattern (mean age at the first menstruation, duration of menstruation, characteristic of menstrual cramps and large amount of bleeding), the contraception habits (use of reliable and less reliable contraceptive methods) and migraine characteristics (including number of headache days, intensity of headache, use of acute and prophylactic anti-migraine drugs).

Statistical analysis: The associations between COC use, bleeding patterns and clinical characteristics of migraine were compared by the Pearson correlation tests. The validity process of the questionnaire was performed and internal reliability was also calculated.

The study and questionnaire were approved by the National Ethics Committee of Hungary. The study was performed in full accordance with the Declaration of Helsinki (1961), and all participants gave their written informed consent (Approval No: 22760-2/2013/EK3/288/2013).

Results

Our study group consisted of 108 women with M0 (58%) and 78 women with MA (42%). The average age of the patients at the diagnosis of migraine was 18.8±7.0 years. The mean body weight and the mean body height were 65.7±16.0 kg and 165±9.9 cm. The mean age at menarche was 12.3±2.1 years.

References


The Pearson correlation test revealed a relationship between duration of menstrual cycle and the intensity of headache (p=0.012). The duration of COC use was correlated with the intensity and duration of headache (p=0.001 and p=0.021).

Conclusions

Based upon our research sample we could conclude that there were strong relationships between the duration of menstrual cycle and the intensity of headache pain (p=0.012) and the longer COC use and the intensity and duration of headache in MO group (p=0.001, p=0.021). The study of Meeks-Feld and his coworkers [5-6] revealed that progestogen only pill (POP) reduced the number of headache days in MO patients (n=23). Moro and his coworkers [11] found similar results on 53 MO patients. Their data confirmed that POP was beneficial for the migraine patients and improved quality of life of MO patient. During the follow-up period, the use of POP decreased the use of analgetic drugs compared to use of COC therapy. The majority of our MO patients (54.3%) were used COC, there were no cases of POP users among our patients. Calhoon and his colleagues [12] presented that the use of vaginal ring was associated with a reduced frequency of aura. Our data did not support similar findings.