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## EPO-250

**Commonalities and differences between COVID-related headache and COVID vaccine-related headache**

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**Background and aims:** To compare the clinical phenotype of coronavirus disease (COVID)-related headache and COVID vaccine-related headache.

**Methods:** Case-control study including adult patients with headache attributed to COVID (cases) and patients with COVID vaccine-related headache (controls), matched for age, sex, and prior history of headache. A standardized questionnaire was administered, assessing demographic variables, prior history of headache, headache phenotype, and associated symptoms.

**Results:** 238 patients were enrolled, including 143 cases and 95 controls. There were no differences regarding demographic variables and prior history, except for family history of headache. After adjusting for multiple comparisons, patients with COVID-19 related-headache exhibited a higher frequency of arthralgia, diarrhea, dyspnea, chest pain, expectoration, anosmia, myalgia, odynophagia, rhinorrhea, cough, and dysgeusia. Patients with COVID-19 related-headache had a more prolonged daily duration of headache and described the headache as the worst headache ever experienced. Patients with COVID-19 vaccine-related headache, experienced more frequently pain in the parietal region, phonophobia, and worsening of the headache by head or eye movements. Cough (Odds ratio (OR): 21.316; 95% confidence interval (CI): 4,298-105,725) and rhinorrhea (OR: 15.433; 95% CI: 3,104-76,721) were associated with COVID-19 related-headache in the multivariate analysis.

**Conclusion:** Headache caused by SARS-CoV-2 infection and COVID-19 vaccination related-headache present more similarities than differences, supporting a shared pathophysiology. In both cases, headache may arise from the activation of the innate immune response. The main differences between COVID-19 related-headache and COVID-19 vaccine related-headache were observed regarding frequency of associated symptoms.

**Disclosure:** The authors have not conflict of interest.

## EPO-251

**Brain derived neurotrophic factor during migraine attacks**

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**Background and aims:** Migraine is a very common neurologic disorder. The mechanisms involved in the generation of migraine attack are probably multifactorial and are not fully understood. Brain derived neurotrophic factor (BDNF) is a neurotrophin that has been implicated in the generation and modulation of pain. The present study aimed to investigate the role and importance of brain neurotrophic factor in the clinical course of migraine.

**Methods:** This study sponsored by International Headache Society. In our research work, the main contingent of patients were collected in the clinical hospital of Tashkent medical academy, Uzbekistan. 78 patients aged 18 to 44 years (average age 32.8±7.8) with episodic migraine were selected for the study. The control group consists of 30 healthy volunteers (average age 29.9±3.7).

**Results:** The increase in BDNF was 83.3% in patients with migraine attacks and 16.67% in patients without migraine attacks, while the decrease in BDNF was 16.67% in patients with attacks and 83.3% in patients without migraine attacks. In this case,  $\chi^2$  was 30.9,  $r=0.29$ , the hazard ratio was 25.0. The Odds Ratio was 5.0. The Risk Difference was 66.6. Fisher-Exact index was 0.000001.

**Conclusion:** It was observed that the concentration of BDNF in the blood serum of patients increased during migraine attacks. This, in turn, leads to a decrease in the quality of life of patients with acute migraine, and a decrease in the effectiveness of treatment.

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