



### Evaluation of the correlation between flow mediated dilation and homocystein with migraine

Somayeh Ghoreishei, Reza Daneshvar, Javad Aboulhassanei, Mojtaba Sehat

**Background:** endothelial-derived nitric oxide mediates the arterial dilation following hyperemia (flow-mediated dilation, FMD). This method has been used for evaluating endothelial function. On the other hand, homocysteine is an amino acid which impairs nitric oxide secretion. Endothelial dysfunction is supposed to trigger a migraine. This study aimed at investigating whether the endothelial function is impaired in migraine patients compares to the control group.

**Methods:** We evaluated 29 migraineurs (1 with aura [MWA] and 28 without aura) and 22 controls. In the age group 15-50 years. FMD was evaluated with ultrasound by measuring the percentage of increase of brachial artery diameter after 5 minutes of cuff inflation around the forearm above systolic pressure. FMD values were then normalized for shear stress. Fasting serum homocysteine was also measured. Mann-Whitney test was used to compare homocysteine and FMD between studied groups.

**Results:** FMD and homocysteine difference between two groups wasn't statically significant. Normalized FMD in migraineurs (2.1% /s) and in control group (2.3% /s). P= 0.966. Mean homocysteine in migraineurs was  $9.42 \pm 6.20$   $\mu\text{mol/lit}$  and in control group was  $9.12 \pm 6.25$   $\mu\text{mol/lit}$ .

**Conclusion:** peripheral endothelial function and arterial response to hyperemia don't impaired in migraineurs.