Suchko K. O., Khlunovskaya L. Yu.

ASSESSMENT OF THE STATE OF CEREBRAL VESSELS IN CHILDREN WITH MIGRAINE

Scientific advisor PhD, assistant Khlunovskaya L. Yu.
Department of Pediatrics and Medical Genetics
Bukovinian State Medical University, Chernivtsy

Relevance. Headache is a very common clinical symptom of many diseases. Most often in children headache occurs as a result of stimulation of cerebral vessels receptors in cause of circulatory disorders or change of their tone. Migraine is a very common neurovascular pathology, 12-15% of population suffers from it, and 4% of them are kids.

The aim: considering the vascular cause of migraine headache, we evaluated indicators of rheoencephalography (REG) research of brain vessels.

Material and methods. The study involved 29 kids aged 7–18 years old with migraine. All children underwent a complete clinical, laboratory and instrumental studies. All patients complained on headache, mostly one-sided.

Evaluation of REG data included blood supply, vascular tone, the tone of arterioles and venous drainage in internal carotid artery basin (ICAB) and vertebro-basilar basin (VBB).

Results. Among examined kids were 12 boys and 17 girls. 6 kids (20,7%) had normal blood circulation in both vessel basins, 5 (17,2%) – severe hypovolemia, by 4 kids (13,8%) had mild hypovolemia and hypervolemia both, asymmetrical blood filling of right and left brain hemispheres was detected in 8 kids (27,6%).

Hypertonus of brain vessels was found in 22 kids (78,8%). 2 kids (6,9%) had a slight hypotonia of vessels and 5 (17,2%) – dystonia of right and left brain hemispheres.

It was established dystonia of arterioles of right and left hemispheres in 6 kids (20,7%), in 5 kids (17,2%) – dystonia of ICAB and VBB, 1 child (3,4%) had normal tone of arterioles, 8 kids (27,6%) – decreased and 9 kids (31,1%) – increased tone of arterioles of the brain.

Venous drainage was not disturbed in 17 kids (58,6%), disturbed at both basins in 9 kids (31,1%), asymmetrical by hemispheres – in 3 kids (10,3%). Violation of venous drainage was observed on the background of increased tone of brain vessels.

Cerebral vasospasm leads to increasing of intracranial pressure, which leads to stimulation of vascular wall receptors and manifest by onset of severe headache. Asymmetry of damage leads to one-sided localization of process.

Conclusion: mainly, children with migraine had hypovolemic blood filling on the background of hypertonus of cerebral vessels.