P-208

Preliminary neuropsychological assessment of adolescents after congenital heart defect repair.

Stolarska U. (1), Werynski P. (2), Rudzinski A. (2), Kacinski M. (1)
(1) Jagiellonian University Collegium Medicum, Department of Pediatric Neurology, Cracow, Poland.
(2) Jagiellonian University Collegium Medicum, Department of Pediatric Cardiology, Cracow, Poland

Congenital heart defects (CHD) in children are a risk factor in normal cognitive development. A consequence of a growing number of adolescents after CDH repair is increasing incidence of neurodevelopmental abnormalities and a growing interest in the problem. The objective of the study was neuropsychological assessment of adolescent patients with various surgical and/or interventional procedures due to CHD (GUCH) performed in childhood. Material and methods: The assessment included 18 patients aged x-17.6±19.1 years; the group consisted of 13 with past simple and 5 complex CHD, who because of age had to be transferred to adult cardiological care. The tests included the Wechsler Intelligence Scale (WAIS-R (PL)/WISC-R) and neuropsychological tests evaluating memory, attention, praxis, abstract thinking and visuospatial functions (Verbal Fluency Test, Rey-Osterrieth Complex Figure Test, Digit Cancellation Trial, Lucki books- a set of memory and executive function trials, DUM- a visual memory test, 10 words verbal learning trial, Wisconsin Card Sorting Test). Results: Only four patients (2 after CoAo, 1 after ASD2 and 1 after PVS repair) achieved results not indicative of organic type cognitive dysfunctions. The remaining adolescents demonstrated various degrees of cognitive difficulties typical of CNS dysfunction or damage with organic background. One patient after PDA closure showed impairment of involuntary visual memory only. Seventeen individuals revealed disturbances characteristic for frontal region dysfunctions (decreased verbal fluency in the letter category, attention and praxis disorders, as well as learning impairment independent of material modality), while 16 patients additionally showed visual memory impairment (characteristic of both right hemisphere temporal and frontal region dysfunctions). In 40% of patients after complex CHD repairs (TOF+PA, SV post Fontan) and 1 with AVS/AVR, visuospatial skills impairment was noted, typical for temporo-parieto-occipital region lesions. Conclusions: 1. Of most commonly demonstrated neurodevelopmental abnormalities, adolescent GUCH patients show executive function impairment. 2. Precise assessment of the association between the type and intensity of cognitive disturbances and cardiological characteristics of the patients requires continued investigations in a more numerous group of patients.