

Neurocognitive and Psychological Status after the Arterial Switch Operation

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The arterial switch operation has been used for decades to correct d-transposition of great arteries. Although almost all patients reach adulthood [1], with a good cardiac condition, not all of them have the same neurocognitive and psychological development, when compare with the normal population.

It is well known that patients with complex congenital malformations requiring surgery early in life, are at risk for neurodevelopmental impairments [2].

This is the case for patients who have undergone a neonatal arterial switch operation for d-transposition of great arteries [3]. The causes might be multifactorial: genetic and gender factors, brain injury during fetal life and, or in the immediate postnatal period, operative factors (extracorporeal circulation, circulatory arrest) low cardiac output etc [4].

A recent and interesting study published by Kasmi., *et al.* [5], pointed out the high prevalence of neurological, psychological and psychiatric disorders in this population.

Their study demonstrated, that adults who underwent an arterial switch procedure to correct a d-transposition of great arteries, have a diminish capacity in several tasks involving general intellectual functions.

Furthermore when these patients were evaluated looking for attention, visual-spatial skills, executive functions, abstraction and episodic memory recognition, a significant, proportion of patients exhibited poorer performances than a control healthy adults population.

Regarding the psychiatric disorders, they have found a lifetime prevalence of depression and anxiety (phobia, panic, obsessive-compulsive disorders). We agree that most of these cognitive deficits are mild or moderate. Nevertheless, they may have a negative impact in the quality of life of this young adults, regarding educational and employment projects.

For this reason the surveillance should be continuous throughout life, in every adult who have undergone a neonatal arterial switch operation (specially in young adults), to achieve an early diagnosis, which is of paramount importance for an adapted treatment as soon as possible.

Unfortunately the switch operation is only one step (the paramount) in the lifetime of patients with d-transposition of the great arteries. To achieve a good long-term quality of life, continuous neurophysiological and psychosocial evaluations should be made, in order to detect as early as possible any deficiency and setup the adapted treatment.

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