Persistent superior exercise performance and quality of life long-term after arterial switch operation compared to that after atrial redirection.

Abstract:
In the end of the last century arterial switch operation (ASO) replaced atrial redirection according to Senning or Mustard as the surgical technique for infants with transposition of the great arteries (TGA). Better survival with the new technique has been shown. However, exercise performance and quality of life have not yet been compared directly. All consecutive patients aged sixteen years or older that had undergone ASO for TGA at our institution and had performed a cardiopulmonary exercise test as part of their routine follow-up were included into the study. Those twenty-eight patients (20 male, median age 18.8 years) were matched for age and gender with twenty-eight patients (20 male, median age 18.9 years) who underwent atrial redirection in the same surgical period at our institution. Peak oxygen uptake was higher in patients after ASO (median 38.1 [quartiles 30.3; 44.5] ml/kg/min vs. 29.8 [23.5; 33.9] ml/kg/min; p<.0001) representing 92.0% predicted and 66.1% predicted (p<.0001), respectively. In addition, patients after ASO presented a better ventilatory efficiency ([Formula: see text] slope, p=.029), ventilatory threshold (p=.006), peak O2 pulse (p=.0001), and oxygen saturation (p=.016), as well as a superior blood pressure response to exercise. Self-estimated quality of life was rather good in both groups but with better results in the physical functioning and general health.
domains in patients after ASO. Adolescents and young adults with TGA still have an improved exercise performance and quality of life in the long-term follow-up after ASO than those patients after atrial redirection.