This research aimed to describe the functional capacity in 46 children aged 8 - 18 with single ventricle (SV) palliated with Fontan procedure, comparing it with echocardiographic systolic function parameters.

CPET (Cardio Pulmonary Exercise Test)
- It is an Important tool for decision-making regarding kids and adults with complex diseases.
- It’s the reference exam when measuring aerobic capacity.
- Before starting a training program, it allows:
  - Assessment of basal functional capacity, deconditioning level, O2 desaturation
  - Identification of other limitations → abnormal pulmonary function, chronotropic incompetence, arrhythmias
- Prognostic factors related to functional capacity and mortality: V’O2 peak and ventilatory efficiency ( VE/V’CO2).
- Most children with univentricular physiology have a lower V’O2 peak in comparison with healthy population and other congenital cardiopathy groups.

In our single ventricular Group:

25% OF PATIENTS PRESENTED V’O2peak VALUES ≤ 23.5 ML/KG/MIN, WHICH CORRESPOND TO FUNCTIONAL CAPACITY II OR LOWER (NYHA).

IN PATIENTS WITH V’O2 < 24ML/KG/_MINUTE, NO STATISTICALLY SIGNIFICANT RELATIONSHIP WAS FOUND BETWEEN LOW V’O2 AND SYSTOLIC DYSFUNCTION.

CONCLUSIONS
25% of our cohort of patients with Cavopulmonary physiology showed significantly low VO2/Kg values.

Classic echocardiographic parameters did not correlate with these functional alterations.

CPET is recommended in the routine control of this patients to have a more reliable assessment of their functional capacity.

PHYSIOPATHOLOGICAL CONDITIONS FREQUENTLY PRESENT THAT WORSEN AEROBIC CAPACITY:
1. Cardiopulmonary and/or muscular anomalies
2. Chronotropic Incompetence secondary to autonomic dysfunction or medication.
3. Multifactorial ventilatory inefficiency: LV dysfunction, pulmonary hypertension, intrapulmonary shunts, thoracic distortion.

Children with cardiac disease or chronic conditions show progressive exercise intolerance. The range of physical activity varies from normal to severely limited

- Self limitations by fear,
- Restrictions by parents or caregivers
- Co-morbidities (arrhythmias, ventricular dysfunction, infectious endocarditis, restrictive pulmonary pathology)
- Surgical or interventional procedures.
- Psycho-social conflicts.

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