INTRODUCTION:
Aortic valve lesions requiring surgery in patients with congenital heart disease are a real challenge. These valve lesions present more complexity in comparison with acquired valve lesions, owed to more severe structural anomalies of the valve itself, and the wide range of size of the patients from infant to adult. In order to delay the time of the valve resection and prosthesis interposition, our first surgical option in each patient is trying to spare its aortic native valve. We present here our experience with conservative aortic valve surgery in our congenital heart unit.

MATERIAL & METHODS:
Retrospective study: 32 operations performed in 31 patients, during the period (June 2010- April 2016). Statistical analysis was done with SPSS 20.0.

RESULTS:
Median age 6 years (IQR 0.35-14.25), and 31% were ≤ 6 months. Female: 41% Initial Diagnoses:
- Aortic valvulopathy 44%
- Laubry syndrome 6%
- Aortic root pathology 6%
- Complex subaortic stenosis 16%
- Shone syndrome 6%
- Other 12%

Chromosomopathy: Turner (6%), CATCH-22 (6%), Marfan (3%) Previous percutaneous aortic valvuloplasty was done in 25%. Previous surgery in 19%.
Clinical symptoms: asymptomatic 57%, dyspnoea 31%, angina 9%, syncope 3%.

Operations were performed with cardiopulmonary by-pass (CPB) and aortic clamp (AoC), with transaortic approach.
• Surgical techniques employed: Comissurotomy in 5(16%)
  Aortic leaflet plasty in 13(41%)
  Comissurotomy + aortic leaflet plasty in 10(31%)
  David operation in 4(12%).
• Associated surgery was done in 27(84%) patients, mainly consistent in closing a ventricular septal defect or subaortic membrane resection.
• Median CPB time 97 minutes (IQR 80-169), AoC time 73 minutes (IQR 55-118)

Hospital mortality: 1 patient (3.1%).
Median intubation time 6 hours (IQR 3-45); median intensive care unit stay 4 days (IQR 3-6) and median hospital stay 8 days (IQR 6-11).

Follow-up is complete, mean 21±21 months, without late mortality.
Two patients were reoperated during this time: 1 received another valvuloplasty, 1 valve replacement with a mechanical prostheses.

Nowadays the majority of our patients are asymptomatic, with normal function of their aortic valve.
• Aortic valve peak gradient: 29±10 mmHg, and mean gradient 14±10 mmHg
• 74% with less than mild aortic regurgitation

CONCLUSIONS:
• Aortic valve sparing surgery in patients with congenital heart disease presents more complexity related to valve anatomy, the size of the patient and the associated pathology.
• If we achieve the aortic valve conservation, our results are good related to short and medium term follow-up.

Aortic valve

Anatomy
Main functional pathology
Bicuspid 15(47%)
Stenosis 14(44%)
Monocupid 3(9%)
Insufficiency 7(22%)
Cuadricula 1(3%)
Double lesion 5(15%)
Tricuspid 13(41%)
No pathology 6(19%)