

CASE DISCUSSIONS OF CONGENITAL HEART DISEASE: MANAGEMENT, CHALLENGES & LESSONS LEARNED

When You Have an “N” of One...

Combined hybrid + VAD placement
in high-risk single ventricle infant

Saturday, February 25, 2023



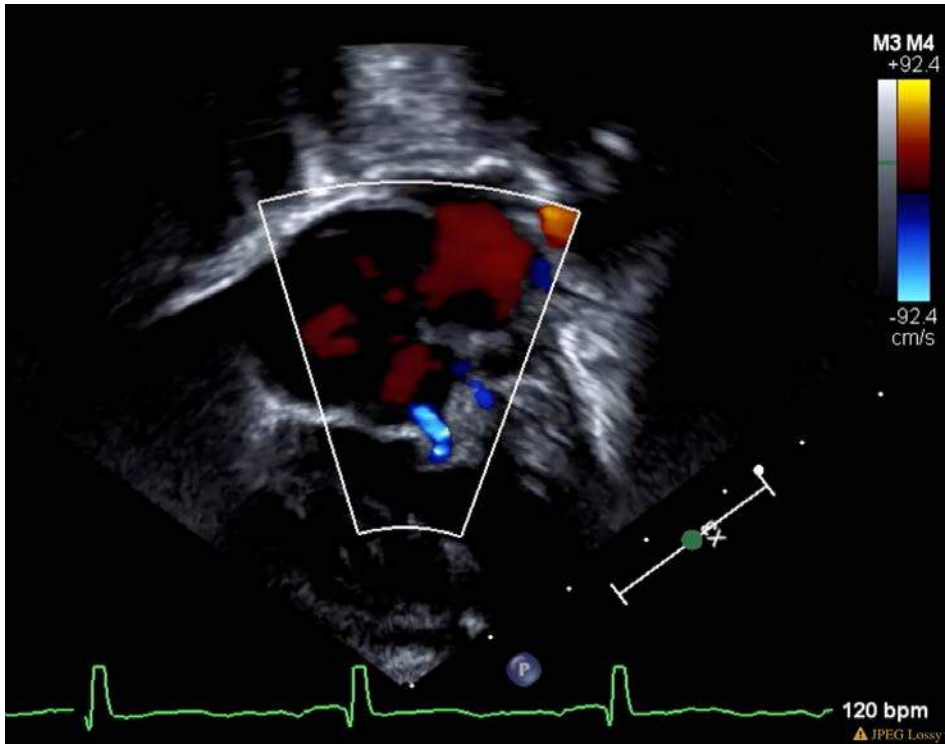
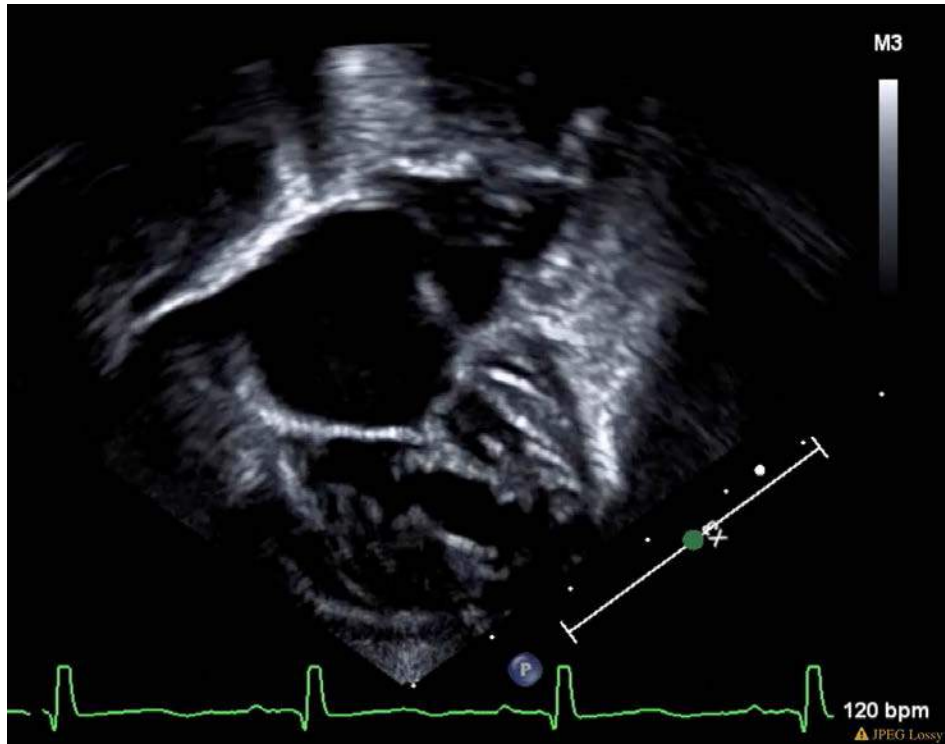
OVERVIEW

- Meet Patient BB
- Initial palliative options
- Clinical course
- Reflections

PATIENT BABY BOY

- Full term male born with hypoplastic left heart syndrome (mitral atresia, aortic atresia)
- Prenatal diagnosis
- Concern for **severe tricuspid regurgitation**
- Born full term and placed on prostaglandin infusion with early high risk surgical planning
- BW 2.7 kg

POSTNATAL IMAGING



RISK FACTORS

aortic
atresia

severe AV
valve
regurgitation

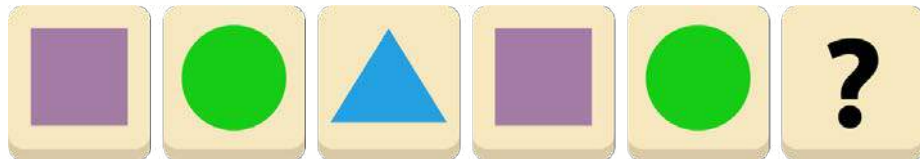
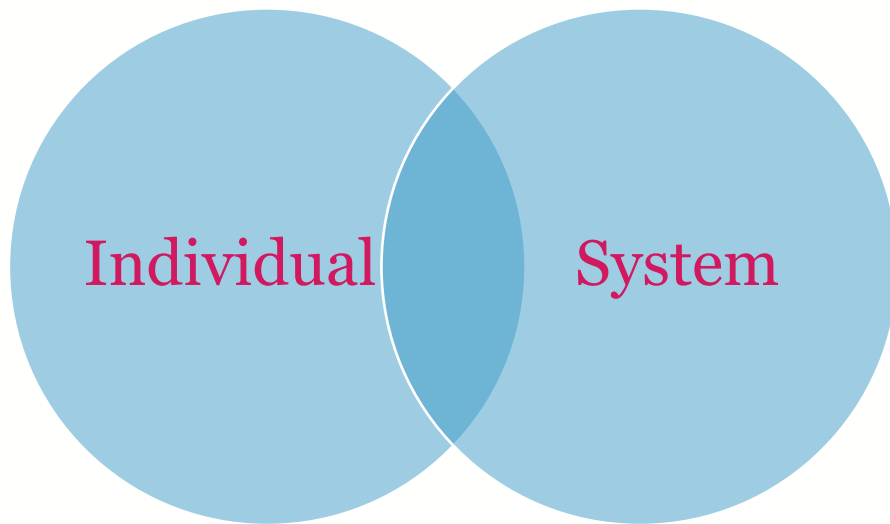
impaired
ventricular
function

PALLIATIVE OPTIONS

Norwood Operation	Hybrid Procedure	Hybrid + VAD Procedure

THE CHALLENGES

- Young attending
- Pattern recognition
- Struggles with “informed” consent
- A change in practice
- Going into the unknown...



OPERATIVE & POSTOPERATIVE COURSE

Operative Strategy

DOL #5

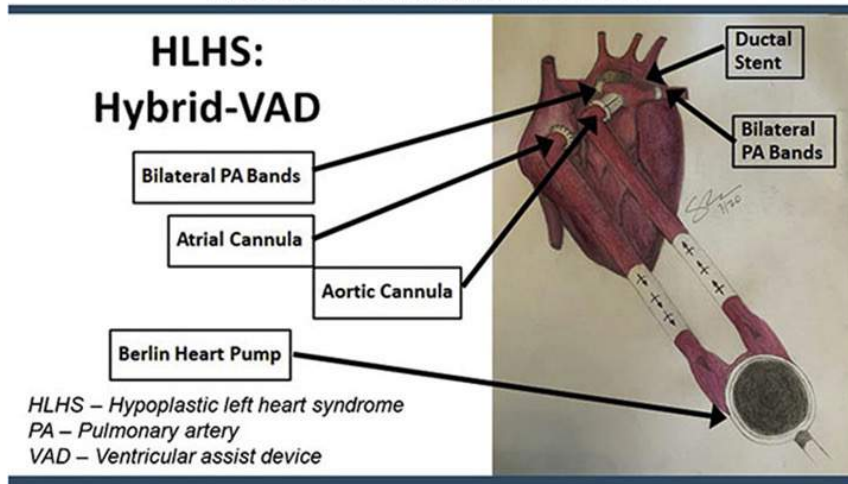
Bilateral pulmonary artery banding
Berlin heart implantation

- Inflow: Right atrium
- Outflow: Main pulmonary artery via side arm graft

Access: 6Fr sheath in the MPA via chimney graft
8mm x 2cm stents positioned in tandem across the PDA

Note: chylous effusions seen on chest entry

Combined Hybrid Procedure and VAD Insertion in 9 High-Risk Neonates and Infants with HLHS



THE ANNALS OF
THORACIC SURGERY

Official Journal of The Society of Thoracic Surgeons and The Southern Thoracic Surgical Association

Bleiweis et al, 2021



@annalsthorsurg #TSSMN
#VisualAbstract #AnnalsImages

CLINICAL COURSE

- Preoperative atrial flutter, managed on digoxin
- Extubated on POD #4
- Balloon atrial septostomy 1 month of age with concern for left atrial hypertension
- Listed status 1A at about 1 month of age
- Reverse coarctation requiring stent placement at 3 months of age
- Able to transfer to stepdown unit, on enteral diuretics, entirely enteral feeds and gaining weight
- 6 months of age underwent orthotopic heart transplant
 - Ultimately passed away from graft failure

RISK FACTORS

aortic
atresia

severe AV
valve
regurgitation

atrial
flutter

impaired
ventricular
function

atrial
restriction

chylous
effusions

REFLECTIONS: THE HYBRID + VAD EXPERIENCE

- Strategy tried for subsequent patients
 - No patients discharged home from hospital
 - Other patients with initial hybrid with subsequent VAD placement
- Change in counseling for families and providers

Advanced heart failure therapies are the future of congenital heart disease care