**Supplementary Table S1. Variables included in the study**

Shunt Anastomosis/Donor vessel/3 (SCA, BCT, Ao)

Body Surface Area/Preoperative

CPB Use (yes/no)

CPB Time\_(min)

Time interval To Second Operation (days)

Main Diagnosis

Diagnosis (Univentricular/Biventricular)

Diameter of the shunt (mm)

ECMO requirement (yes/no)

Genetic Syndrome (yes/no)

Graft Index

Highest Lactate level postoperative

Intraoperative Need for Inotropes (yes/no)

Intraoperative Need for Inotropes (drug/dose)

Postoperative Low Cardiac Output (yes/no)

Mechanical Ventilation Time (hours)

Preoperative MPA\_Diam (mm)

Preoperative MPA\_Diam (ZSc)

Preoperative RPA\_Diam (mm)

Preoperative RPA\_Diam (ZSc)

Preoperative LPA\_Diam (mm)

Preoperative LPA\_Diam (ZSc)

Difference RPA\_LPA (mm)

Difference RPA\_LPA (ZSc)

PA\_Index\_at\_Shunt

DifferenceRPA\_LPA\_ZSc

RPA\_AreaShunt

LPA\_AreaShunt

Preoperative Nakata Index

Age at surgery (days)

PA Index at Shunt operation

PDA patency at shunt operation (yes/no)

PDA Ligation at shunt operation (yes/no)

Preoperative PGE2 administration (yes/no)

Preoperative Hemoglobin (g/dl)

Any Postoperative InfectIon (yes/no)

Postoperative InfectIon \_bacteremia (yes/no)

Postoperative \_Transfusion (yes/no)

Postoperative \_Shunt Thrombosis\_same admission (yes/no)

Postoperative \_prolonged ventilation (yes/no)

Postoperative bleeding (yes/no)

Postoperative NEC (yes/no)

Preoperative Positive pressure ventilation (yes/no)

Prematurity (yes/no)

Postoperative Pulmonary Overflow (yes/no)

Shunt Anastomosis Pulmonary/Site/2 (PA branch, main PA)

RACHS score

Preoperative Rashkind (yes/no)

RVOT\_Antegrade Flow (yes/no)

Preoperative O2 Saturation (%)

Gender (male/female)

Surgical period of Shunt surgery/3 (Terciles)

Shunt side (if applicable)

Weight less 2500g at shunt surgery (yes/no)

Shunt toWeight Ratio

Height at shunt surgery (cm)

Weitght at shunt surgery (kg)

STS/EACTS category

Surgical Approach/2 (Sternotomy or thoracotomy)

Unplanned catheterization within index admission or 30 days

Unplanned reoperation within index admission or 30 days

Postoperative Inotop Use (drug/dose)

PICU length of stay (hours)

Hospital length of stay (days)

Hospital Death Before Discharge (yes/no)

Hospital Death Before Discharge /Cause

Height at shunt take-down surgery (cm)

Weitght at shunt take-down surgery (kg)

BSA at shunt take-down surgery

shunt take-down surgery \_MPA\_Diam (mm)

shunt take-down surgery \_MPA\_Diam (ZSc)

shunt take-down surgery \_RPA\_Diam (mm)

shunt take-down surgery RPA\_DeltaChange (mm) from Shunt surgery

shunt take-down surgery \_RPA\_Diam (ZSc)

shunt take-down surgery RPA\_DeltaChange (ZSc)\_from Shunt surgery

shunt take-down surgery \_RPA\_area

shunt take-down surgery \_LPA\_Diam (mm)

shunt take-down surgery LPA\_DeltaChange (mm)\_from Shunt surgery

shunt take-down surgery \_LPA\_Diam (ZSc)

shunt take-down surgery LPA\_DeltaChange (ZSc) from Shunt surgery

shunt take-down surgery \_LPA\_area

Difference RPA\_LPA\_(mm) at shunt take-down surgery

shunt take-down surgery PA\_Index

Difference RPA\_LPA\_(ZSc) at shunt take-down surgery

shunt take-down surgery \_NAKATA\_mm2\_m2

Difference\_Nakata\_ shunt take-down surgery curative\_surg

shunt take-down surgery MPA/RPA/LPA\_Pressure (mmHg)

Reoperation from index shunt operation until shunt take-down surgery (yes/no)

Reoperation from index shunt operation until shunt take-down surgery/Cause

Catheterization from index shunt operation until shunt take-down surgery (yes/no)

Catheterization from index shunt operation until shunt take-down surgery/cause

Interstage Death (yes/no)

Interstage Death/cause

Interstage Death\_Shunt-related (yes/no)

Pulmonary Artery Stenosis at follow-up (yes/no)

Juxta-ductal stenosis at follow-up (yes/no)

Pulmonary Artery percutaneous balloon angioplasty or stenting at follow-up (yes/no)

MBTS-related\_ Pulmonary Artery percutaneous balloon angioplasty or stenting at follow-up (yes/no)

MBTS\_ percutaneous balloon angioplasty or stenting at follow-up (yes/no)

Overall Survival (days)