

Supplementary Table 1: Cohort characteristics and Standardized Mean Difference

Variable	Level	N	Overall N=324	Primary Repair N=131	Staged Repair N=193	p	Unadjusted SMD	Adjusted SMD
Center	1	324	17 (5.25%)	11 (8.40%)	6 (3.11%)	<0.001	0.886	0.043
	2		105 (32.41%)	68 (51.91%)	37 (19.17%)			
	3		49 (15.12%)	16 (12.21%)	33 (17.10%)			
	4		22 (6.79%)	5 (3.82%)	17 (8.81%)			
	5		74 (22.84%)	22 (16.79%)	52 (26.94%)			
	6		57 (17.59%)	9 (6.87%)	48 (24.87%)			
Pre-intervention invasive ventilation	No	324	252 (77.78%)	112 (85.50%)	140 (72.54%)	0.006	0.322	0.022
	Yes		72 (22.22%)	19 (14.50%)	53 (27.46%)			
Prematurity	No	324	254 (78.40%)	109 (83.21%)	145 (75.13%)	0.08	0.200	0.033
	Yes		70 (21.60%)	22 (16.79%)	48 (24.87%)			
22q11.2 microdeletion syndrome	No	324	288 (88.89%)	121 (92.37%)	167 (86.53%)	0.10	0.191	0.013
	Yes		36 (11.11%)	10 (7.63%)	26 (13.47%)			
Presence of antegrade pulmonary blood flow	No	324	166 (51.23%)	63 (48.09%)	103 (53.37%)	0.35	-0.106	0.002
	Yes		158 (48.77%)	68 (51.91%)	90 (46.63%)			

Abbreviations: SMD standardized mean difference

Supplementary Table 2: Clinical Outcomes

	Primary Repair (n=131)	Staged Repair (n=193)	p
Mortality			
<i>Through 3 months</i>	5% (6)	1% (1)	0.02
<i>Through 18 months</i>	7% (9)	4% (7)	0.19
Procedural complications			
<i>Total</i>	47% (61)	37% (72)	0.10
<i>During hospitalization for first procedure</i>	47% (61)	20% (39)	<0.001
<i>During hospitalization for operative correction</i>	47% (61)	25% (48)	<0.001
Reintervention			
<i>Total</i>	11% (15)	17% (33)	0.20
<i>During hospitalization for first procedure</i>	11% (15)	13% (25)	0.73
<i>During hospitalization for operative correction</i>	11% (15)	6% (12)	0.10
Extracorporeal membrane oxygenation			
<i>Total</i>	6% (8)	1% (1)	0.004
<i>During hospitalization for first procedure</i>	6% (8)	0% (0)	0.001
<i>During hospitalization for operative correction</i>	6% (8)	1% (1)	0.004
Ventilation (days)			
<i>Total</i>	3 (1-8)	4 (2-8)	0.14
<i>During hospitalization for first procedure</i>	3 (1-8)	2 (1-4)	<0.001
<i>During hospitalization for operative correction</i>	3 (1-8)	1 (1-3)	<0.001
Hospital length of stay (days)			
<i>Total</i>	21 (14-35)	32.5 (22-49)	<0.001
<i>During hospitalization for first procedure</i>	21 (14-35)	20 (12-31)	0.62
<i>During hospitalization for operative correction</i>	21 (14-35)	9 (6-18)	<0.001
Intensive care unit length of stay (days)			
<i>Total</i>	8 (5-18)	12 (8-19.5)	<0.001
<i>During hospitalization for first procedure</i>	8 (5-18)	6 (4-11)	0.002
<i>During hospitalization for operative correction</i>	8 (5-18)	4 (3-7)	<0.001

Data are presented as % (n) for categorical data and median (interquartile range) for continuous data
 Abbreviations: ECMO extracorporeal membrane oxygenation