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## High prevalence of truncus arteriosus in pediatric congenital heart disease in Uganda

Sir,  
Over half of the deaths due to congenital heart disease (CHD) occur in the neonatal period, and majority of the children with unrepaired complex heart lesions do not live to celebrate their first birthday.<sup>[1,2]</sup> Unrepaired CHD is a major cause of heart failure among children in Africa.<sup>[3]</sup>

As part of the registry for CHD, we reviewed echocardiography reports of children who presented to the Uganda Heart Institute between 2007 and 2014. In

this letter, we summarize patient demographics including age, sex, and type of congenital heart defects.

### SETTING

The Uganda Heart Institute is a lone national cardiovascular center with a fully functional operating theater in addition to a catheterization laboratory. It performs pediatric and adult open-heart surgeries, diagnostic, and interventional catheterization procedures.<sup>[4]</sup> Difficult procurement of right ventricle-pulmonary artery

**Table 1: Acyanotic heart disease**

	<i>n</i>	Overall percentage in CHD ( <i>n</i> =3526)	Mean age months (years)	Female, <i>n</i> (%)
Isolated VSD	921	26	25 (2)	484 (52)
PDA	760	22	19 (1.6)	478 (62)
ASD	332	9.4	51 (4)	188 (56)
ECD	265	8	17 (1)	164 (62)
Pulmonary valve stenosis	226	6	38 (3)	99 (44)
Mitral valve prolapse	63	2	90 (7.5)	44 (69)
Aortic valve stenosis	35	0.9	100 (8)	14 (40)
COA	14	0.4	80 (6.5)	7 (50)

ECD: Endocardial cushion defects, VSD: Ventricular septal defect, ASD: Atrial septal defect, PDA: Patent ductus arteriosus, COA: Coarctation of the aorta, CHD: Congenital heart disease

**Table 2: Cyanotic heart diseases**

Lesion	<i>n</i>	Mean age years/ (months)	Female, <i>n</i> (%)	Overall percentage in CHD ( <i>n</i> =3526)
Tetralogy of Fallot	247	4 (50)	110 (44)	7
Truncus arteriosus	165	0.4 (5)	92 (56)	5
DORV	104	1.4 (16.5)	56 (53)	3
Pulmonary atresia	71	2.6 (32)	38 (53)	2
Tricuspid atresia	62	1.6 (20)	31 (50)	1.8
D-TGA	53	0.7 (9.5)	21 (40)	1.5
A PVR	8	0.5 (7)	4 (50)	0.2

D-TGA: Dextro transposition of the great arteries, APVR: Anomalous pulmonary venous return, DORV: Double outlet right ventricle

conduits has partly contributed accelerated numbers of unoperated children.

Detailed transthoracic echocardiography was performed and interpreted by one of the pediatric cardiologists (PL/SL/TA) using standard guidelines<sup>[5]</sup> with a Sonos 5500 (Philips, Best, Netherlands) and a Philips IE 33 (Philips, Best, Netherlands). Difficult cases were discussed and a final diagnosis made by consensus. Digital archiving enabled cases to be reviewed and discussed with colleagues from other centers. Patient demographics and type of CHD were analyzed using SPSS for Windows, Version 16.0 (IBM, SPSS Inc, Chicago, USA).

## RESULTS

A total of 4621 children were seen at the UHI during the study. Of these, 3526 (76.3%) had CHD and 1941 (55%) were female. Ventricular septal defects and patent ductus arteriosus and tetralogy of Fallot and truncus arteriosus were the most common cyanotic and acyanotic heart defects [Tables 1 and 2].

A sizeable number of children (*N* = 185) child had dysmorphic features, 61 of these underwent genetic testing (Down syndrome *n* = 24, 22q11.2 deletion syndrome *n* = 10, and others). Conotruncal abnormalities were common in children with 22q11.2 deletion.

## PERSISTENT TRUNCUS ARTERIOSUS

Whereas other regions report lower prevalence of 2.4% of the cases of CHD,<sup>[6]</sup> truncus arteriosus marginally followed tetralogy of Fallot at 5%. Mean age at the diagnosis was 5 months of the 165 children with a female preponderance.

This is probably due to a selection bias in our setting because other critical lesions are unrecognized at birth and demise in the neonatal period before referral to UHI, giving a spuriously high number of cases of persistent truncus arteriosus.

## CONCLUSION

This brief report highlights an unusual occurrence of truncus arteriosus among Ugandan children with CHD, and we presume a genetic predisposition that warrants further research.

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## Conflicts of interest

There are no conflicts of interest.

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