ISSN: 0975-3583,0976-2833 VOL13, ISSUE 08, 2022

ORIGINAL RESEARCH

Assessment of spectrum of heart diseases in children

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Received: 19 September, 2022 Accepted: 27 October, 2022

Abstract

Background: Congenital heart defects (CHD) are the main heart diseases found in children. The present study was conducted to assess spectrum of heart diseases in children.

Materials & Methods: 48 children of both genders underwent echocardiographic examination. Presenting complaints, Clinical signs, Different types of diagnosed heart diseases and Different types of cardiomyopathy (CMP) were recorded.

Results: Out of 48 patients, males were 28 and females were 20. Common complaints were cough in 23, sweating in 22, anorexia in 16, chest pain in 11, cyanosis in 32, failure to thrive in 40, dyspnea in 34. Clinical signs were heart murmur in 32, dyspnea in 28, turgescent jugular veins in 30, muffled heart sounds in 23, ascites in 16 and dysrhythmia in 18. Type of cardiopathy was ASD in 20, VSD in 11, PDA in 5, AVCD in 7, TA in 3 and ToF in 2 cases. The difference was significant ($P< 0.05$).

Conclusion: The most common congenital heart diseases observed were atrio- septal defects, ventricular septal defects, patent ductant arteriosus and tetralogy of fallot.

Key words: Congenital heart defects, Children, Cardiopathy

Introduction

Congenital heart defects (CHD) are the main heart diseases found in children. Heart defects have a prevalence of eight cases per 1,000 live births across the globe, representing approximately 1.35 million newborns each year with CHD.[1,2] The impact appears to vary only slightly by region of the world, but the biggest contrast lies in the differences of priorities that are granted according to whether it is in the Western or in the southern countries.[3] Rheumatic fever (RF), stimulated and promoted by precarious socio-economic conditions, has become an exceptional occurrence in high income countries. However, it remains a public health problem in low income countries.[4]

Congenital heart disease, in a definition proposed by Mitchell et al. (1), is "a gross structural abnormality of the heart or intrathoracic great vessels that is actually or potentially of functional significance."[5] It usually excludes congenital arrhythmias such as the long QT and the Wolf-Parkinson-White syndromes, even if the disorders are based on abnormalities present at birth.[6] Lesions such as hypertrophic or dilated cardiomyopathy are usually not regarded as CHD. Even though the abnormal genes that cause these disorders are present at birth, the cardiomyopathy is rarely detected at this time but usually presents later in childhood or adolescence.[7] The present study was conducted to assess spectrum of heart diseases in children.

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Materials & Methods

The present study comprised of 48 children of both genders. Parental consent was obtained before starting the study.

Data such as name, age, gender etc. was recorded. All patients underwent echocardiographic examination. Presenting complaints, Clinical signs, Different types of diagnosed heart diseases and Different types of cardiomyopathy (CMP) were recorded. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

Results

Table I Distribution of patients

Total- 48		
Gender	**Boy**	**Girl**
Number	28	20

Table I shows that out of 48 patients, males were 28 and females were 20.

Table II Assessment of parameters

Parameters	Variables	Number	P value
Complaint	Cough	23	0.01
	Sweating	22	
	Anorexia	16	
	Chest pain	11	
	Cyanosis	32	
	Failure to thrive	40	
	Dyspnea	34	
Clinical signs	Heart murmur	32	0.02
	Dyspnea	28	
	Turgescent jugular veins	30	
	Muffled heart sounds	23	
	Ascites	16	
	Dysrhythmia	18	
Type of cardiopathy	ASD	20	0.04
	VSD	11	
	PDA	5	
	AVCD	7	
	TA	3	
	ToF	2	

Table II, graph I shows that common complaints were cough in 23, sweating in 22, anorexia in 16, chest pain in 11, cyanosis in 32, failure to thrive in 40, dyspnea in 34. Clinical signs were heart murmur in 32, dyspnea in 28, turgescent jugular veins in 30, muffled heart sounds in 23, ascites in 16 and dysrhythmia in 18. Type of cardiopathy was ASD in 20, VSD in 11, PDA in 5, AVCD in 7, TA in 3 and ToF in 2 cases. The difference was significant ($P< 0.05$).

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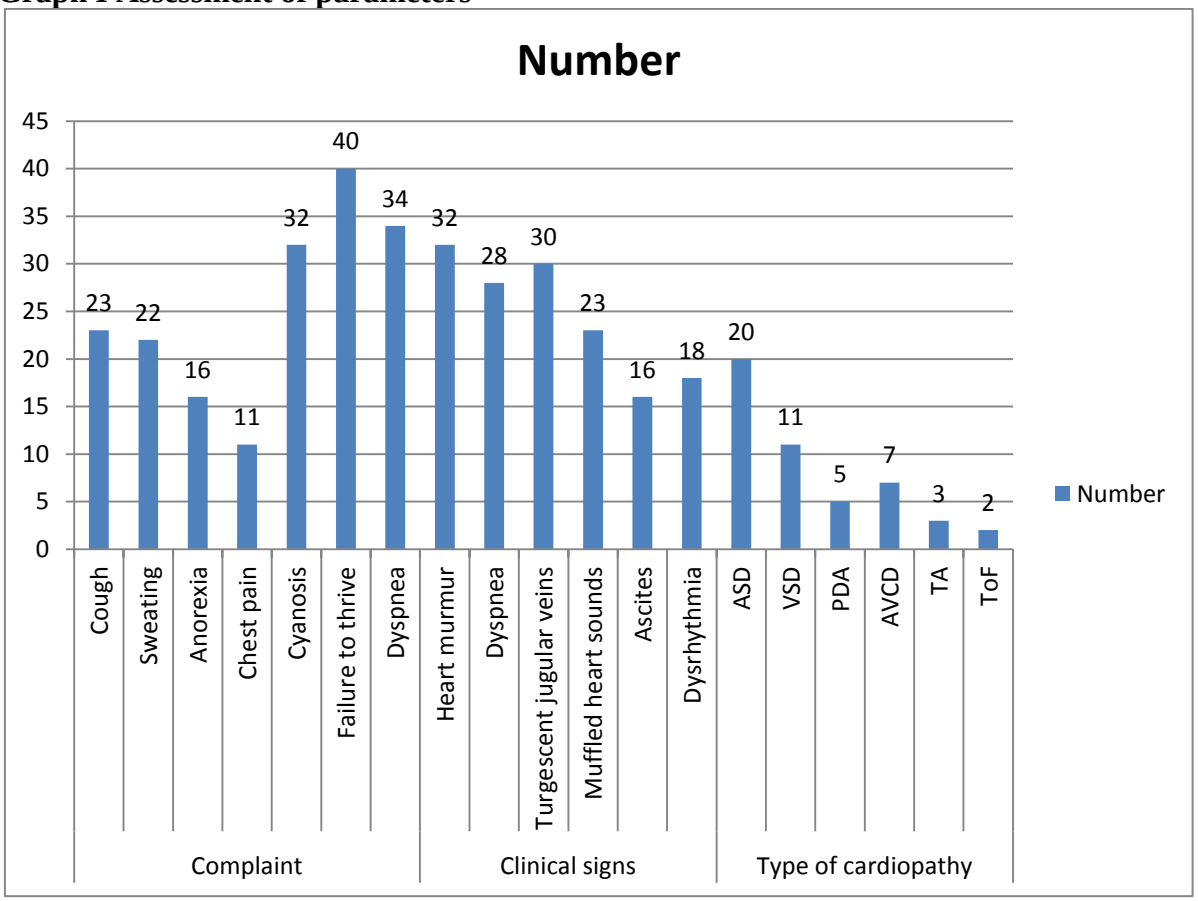
Graph I Assessment of parameters



Discussion

The number of patients with some form of congenital heart disease (CHD) is growing rapidly as therapy becomes increasingly effective.[8,9] Some of these patients have only mild disease with relatively little need for medical care, but others have complicated problems and require the services of an array of people with great expertise in the field.[10,11] The present study was conducted to assess spectrum of heart diseases in children.

We found that out of 48 patients, males were 28 and females were 20. Chelo et al[12] in their study a total of 2,235 patients underwent echocardiographic examination during the study period including 1,666 subjects with heart disease. Congenital cardiopathies were found in 1,230 (73.8%) patients and acquired abnormalities in 429 (25.8%). Seven children (0.4%) had a combination of both types. Congenital heart defects (CHD) were dominated by ventricular septal defect (VSD). Acquired heart disease was mostly rheumatic valvulopathies. Dyspnea on exertion was the most frequent presenting complaint (87.6%). Discovery of a heart murmur was the principal clinical finding on physical examination (81.4%). The median age was 9 months for congenital heart disease and 132 months for acquired heart disease.

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different major forms of CHD also differs greatly from study to study. In addition, another 20/1,000 live births have bicuspid aortic valves, isolated anomalous lobar pulmonary veins or a silent patent ductus arteriosus. The incidences reported in 62 studies published after 1955 were examined. Attention was paid to the ways in which the studies were conducted, with special reference to the increased use of echocardiography in the neonatal nursery. The total incidence of CHD was related to the relative frequency of ventricular septal defects (VSDs), the most common type of CHD. The incidences of individual major forms of CHD were determined from 44 studies. The incidence of CHD depends primarily on the number of small VSDs included in the series, and this number in turn depends upon how early the diagnosis is made. If major forms of CHD are stratified into trivial, moderate and severe categories, the variation in incidence depends mainly on the number of trivial lesions included. The incidence of moderate and severe forms of CHD is about 6/1,000 live births (19/1,000 live births if the potentially serious bicuspid aortic valve is included), and of all forms increases to 75/1,000 live births if tiny muscular VSDs present at birth and other trivial lesions are included. Given the causes of variation, there is no evidence for differences in incidence in different countries or times.
The shortcoming of the study is small sample size.

Conclusion

Authors found that most common congenital heart diseases observed were atrio- septal defects, ventricular septal defects, patent ductant arteriosus and tetralogy of fallot.

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ISSN: 0975-3583,0976-2833 VOL13, ISSUE 08, 2022

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