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Research Article

**CLINICAL PRESENTATION OF CONGENITAL HEART DISEASES
IN CHILDREN FROM 2 MONTHS TO 15 YEARS REPORTED AT
CHILDREN HOSPITAL LAHORE**

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Abstract:

Objective: The objective of this study is to observe the clinical presentation of CHD from 2 months to 15 years and confirm CHD findings in echo at Children Hospital Lahore.

Methods: This descriptive study was conducted at Children Hospital and Institute of child health care Lahore. Duration of study was 3 months. 75 patients of congenital heart disease without age and gender discrimination were selected by consecutive sampling. Those patients Presented with Syndromes and associated other diseases, Acquired heart diseases and Complex cardiac lesion were excluded.

Results: Among 75 patients 56% were male and 44% female. Congenital heart defects were diagnosed commonly between 2 months to 1 Year 29.3% than from 1-5 year (24%), 5-10 year (12%) and 10-15 year (n=8, 10.7%)

Asymptomatic patients mostly present in 2-5 year of age. At 0.16-2 year of age child present with sweating & interrupted feeding, respiratory distress, murmur, syncope and tachypnea and less commonly cyanosis spell, fits. While in 2-5 year of age they present with murmur, syncope and respiratory distress and tachypnea and at 5-15 years child was murmur, chest pain, respiratory distress, tachypnea and syncope.

Commonest single lesion congenital heart defects confirmed by echocardiography was Ventricular septal defect 45.4%, Patent ductus arteriosus 21.2%, Teratology of fallot 16.60%, Atrial septal defect 10.6% and complete atrioventricularseptal defect 6.1% and with dual lesion was Ventricular septal defect with pulmonary stenosis 33.30% followed by Atrial septal defects with pulmonary stenosis 22.20% and Transposition of great arteries with pumonary stenosis 22.20% each . The less common were Atrial septal defect with Patent ductus arteriosus and complete atrioventricularseptal defect with pulmonary stenosis 11.10% each.

Conclusion: Murmur, sweating & interrupted feeding, respiratory distress, chest pain, syncope, tachypnea, cyanosis, spell and fits are important clinical presentations of congenital heart defects from 2 months to 15 years of age. Tran thoracic echo is an important tool for confirmation of clinically suspected and asymptomatic congenital heart defects from 2 months to 15 years of age.

Key Words: CHD, Echocardiography, Complications.

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INTRODUCTION:**Congenital heart defect:**

“Congenital Heart Defect is a gross structural abnormality of the heart or intrathoracic great vessels that is actually or potentially of functional significance” (Mitchellet al., 1971).

Congenital heart diseases, also known as congenital cardiovascular defects, are structural problem that arises from abnormal formation of heart or major blood vessels during fetal development. CHDs may present in different ages from birth to adolescent age group. It is estimated that two-thirds of affected patients are critical in the first year of life, and only few of them can reach childhood either by natural selection or by successful management or curative surgery (Hussein.2005).

CHDs are the most common congenital fetal malformations accounting for nearly 25%, of all congenital malformations and are responsible for a high rate of child mortality and morbidity (Khaled.2009). Most cases are asymptomatic and discovered during routine checkups. Other presentation can range from cyanosis, clubbing of fingers to full congestive heart failure. Its etiology is unknown, but it seems to be multifactorial, involves the chromosomal abnormality, maternal diabetes, smoking, teratogenicity drug, maternal infection during early pregnancy and environmental factors (Khaled.2009).

Conenital heart defect types:

There are two types of Congenital Heart Defects

- Acyanotic Congenital Heart Defects
- Cyanotic Congenital Heart Defects

1: Acyanotic Congenital Heart Defects:

WITH LEFT TO RIGHT SHUNT:

- Atrial septal defect (ASD)
- Ventricular septal defect (VSD)
- Patent ductus arteriosus (PDA)

With no Shunt:

- Coarctation of aorta (CoA)
- Congenital aortic stenosis (bicuspid aortic valve)
- Pulmonary valve stenosis
- Aortic valve stenosis
- Congenital myopathy

2: Cyanoticcongenital Heart Defects:

Decreased flow:

- Tetralogy of Fallot (TOF)
- Tricuspid Atresia (TA)
- Severe Pulmonic Stenosis
- Ebstein'sanamoly

Increased Flow:

- Transposition of great vessels (TGA)
- Truncus arteriosis (Tat)

Objective:

The objective of this study is to observe the clinical presentation of CHD at different age group and confirm their findings in echo at Children Hospital Lahore.

Rationale of Study

The aim of this study is to find out the most common clinical presentation of congenital heart defect in children from 2 months to 15 years of age referred to echocardiography in Children Hospital Lahore.

MATERIALS AND METHODS:

It was an observational cross sectional study at Department of Cardiology, The Children's Hospital and the Institute of Child Health, Lahore during the period of 3 months after the approval of synopsis (1-11-2016 – 31-12-2016). Sample size was Children of CHD from 2 months to 15 years. Consecutive sampling technique was used. A structured Performa was developed including all the variables of interest for use during the study. The Performa was pretested by before adopting a final version. All the data was collected by the investigator herself. After the investigator introduced herself, the echocardiography of congenital heart defects suspected patients were performed and findings of cardiac abnormalities were recorded on the Performa.

Results:

This descriptive study was based on 4 months' time period and 75 patients of congenital heart disease were studied. A Performa was used for each patient, which were filled based on clinical presentation and Echocardiographic findings.

Among 75 patients 42(56%) were male and 33(44%) were female. Their overall ages ranged from 1-15 years (figure 4.1).

Figure 4.1: Sex wise distribution of congenital heart diseases.

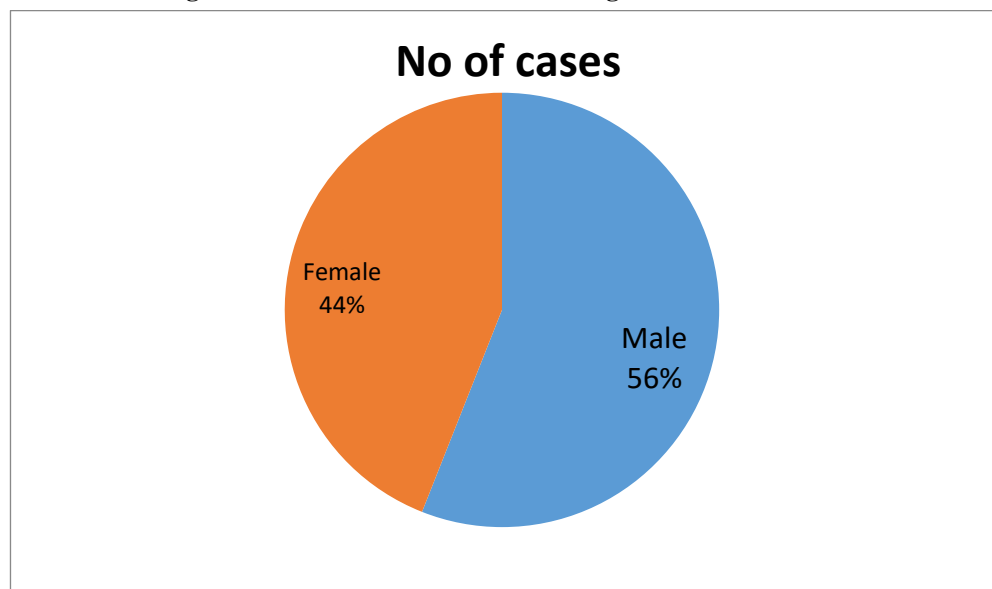


Figure 4.2: Age wise distribution of CHD among 75 patients.

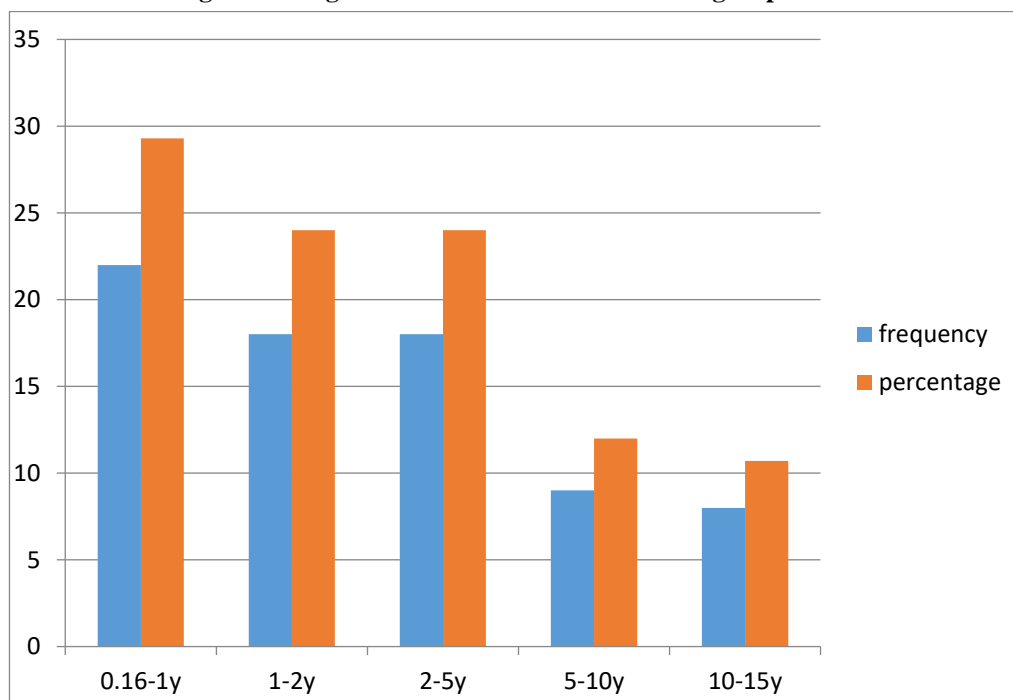


Table 4.2: Clinical findings of the CHD in Symptomatic patients

Clinical findings	No of Cases	Percent
Tachypnea	51	78.7%
Respiratory Distress	62	82%
Sweating & Interrupted Feeding	56	68%
Cyanosis	20	26.7%
Spell	17	22.7%
Fits	6	8%
Chest Pain	43	57.3%
Syncope	55	73.3%
Murmur	66	88%

Figure 4.3 Age wise distribution of clinical presentations of Congenital Heart Diseases

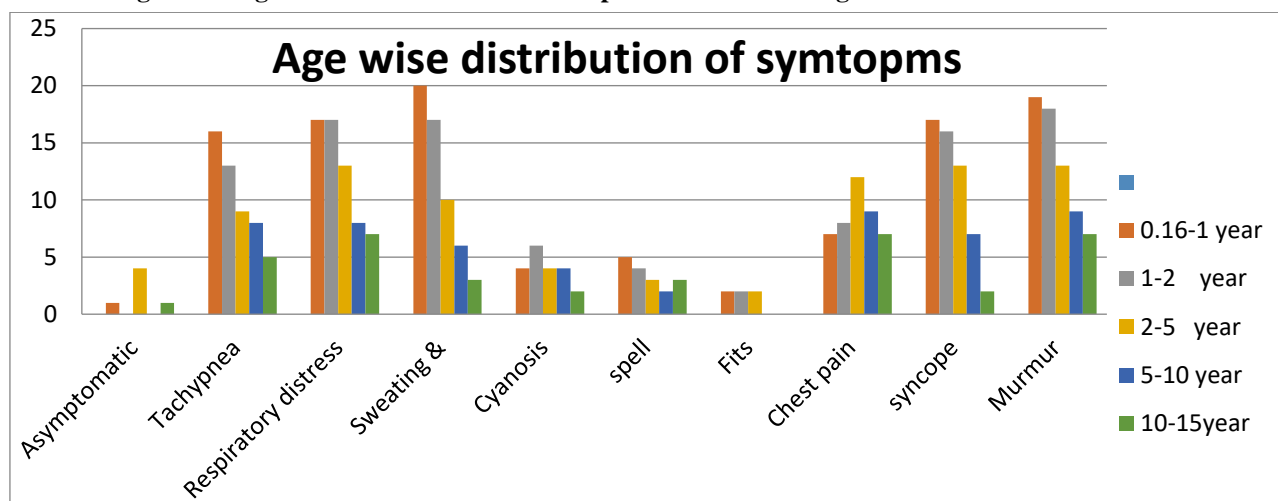


Table 4.4: Distribution of CHD with single lesion (Confirmed By Echocardiography)

Diagnosis	Total no	Percent
ASD	7	10.6%
CAVSD	4	6.10%
VSD	30	45.4%
PDA	14	21.2%
TOF	11	16.6%
Total	66	100%

Table 4.5: Distribution of CHD with two lesion (Confirmed By Echocardiography)

Multiple Diagnosis	Total No	Percent
ASD & PS	2	22.20%
ASD & PDA	1	11.10%
CAVSD & PS	1	11.10%
VSD & PS	3	33.30%
TGA & PS	2	22.20%
Total	9	100%

CONCLUSION:

Asymptomatic patients mostly present in 2-5 year of age. At 0.16-5 year of age child presented with murmur followed by sweating & interrupted feeding, respiratory distress, syncope and tachypnea. While from 5-15 years commonest symptoms were murmur, chest pain, respiratory distress, tachypnea. The most symptomatic single lesion Congenital heart defects were Ventricle septal defect and Teratology of fallot while double lesion was Ventricle septal defect, Atrial septal defect and Transposition of great arteries associated with Pulmonary stenosis. Transthoracic echocardiography is an important tool for confirmation of clinical presentations of CHD at different age group.

Limitations:

- This study was carried out in relatively small number of patients.
- Duration of study was small.
- Any false positive result might change level of significance.
- It is a single center study.

Suggestion:

- Patients from other medical center should be included in study so that results can be better generalized.

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