

DIVISION OF CARDIOLOGY JOURNAL

Antenatal Diagnosis of Congenital Heart Disease by Prenatal Ultrasound Screening

Dr. Sathulhak¹, Pediatric PG¹
Professor Dr. P.G. Raja Kumar, MD, HOD of Pediatric²
Professor Dr. R. Selvaraj, MD³
Dr. A. Jeremy, Pediatric PG⁴
S. Afra Fathima, Msc Microbiologist⁵

^{1,2,3,4}Shri Sathya Sai Medical College and Research Institute, College in Ammapettai, Tamil Nadu
⁵Thassim Beevi Abdul Kader College for Women, Kilakarai

Article Information

Article Type:	Case Report	*Corresponding author:	Citation: Dr. P.S. Sathul Hak (2019) Antenatal Diagnosis of Congenital Heart Disease by Prenatal Ultrasound Screening. Division Cardiol J, 1(1);1-3
Journal Type:	Open Access	Dr. Sathulhak, Pediatric PG	
Volume:	1 Issue: 1	Shri Sathya Sai Medical College and Research Institute	
Manuscript ID:	DCJ-1-102	College in Ammapettai	
Publisher:	Science World Publishing	Tamil Nadu	
Received Date:	25 November 2019	Email: sathulhak@gmail.com	
Accepted Date:	10 December 2019		
Published Date:	15 December 2019		

Copyright: © 2019, Dr. Sathulhak, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 international License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

CASE REPORT

Objective: To assess the antenatal detection rate of congenital heart disease by prenatal ultrasound screening.

SUBJECTS AND METHODS

A. Study Subjects

The study involves children from birth to 10 years of age

B. Type of study

Retrospective observational study

C. Place of the Study

Paediatrics OPD (outpatient department) of Shri Sathya Sai Medical College and Research Institute, Kancheepuram District.

D. Inclusion Criteria

Children with congenital heart diseases, birth to 10 years of age visiting Paediatrics OPD.

E. Exclusion Criteria

Parent not consenting for participation in the study

F. Study Period

12 Month

G. Ethical Clearance

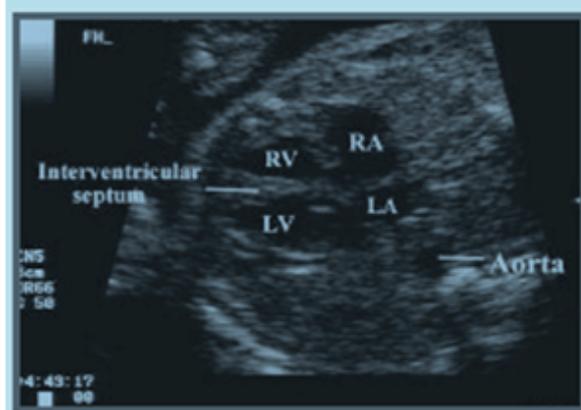
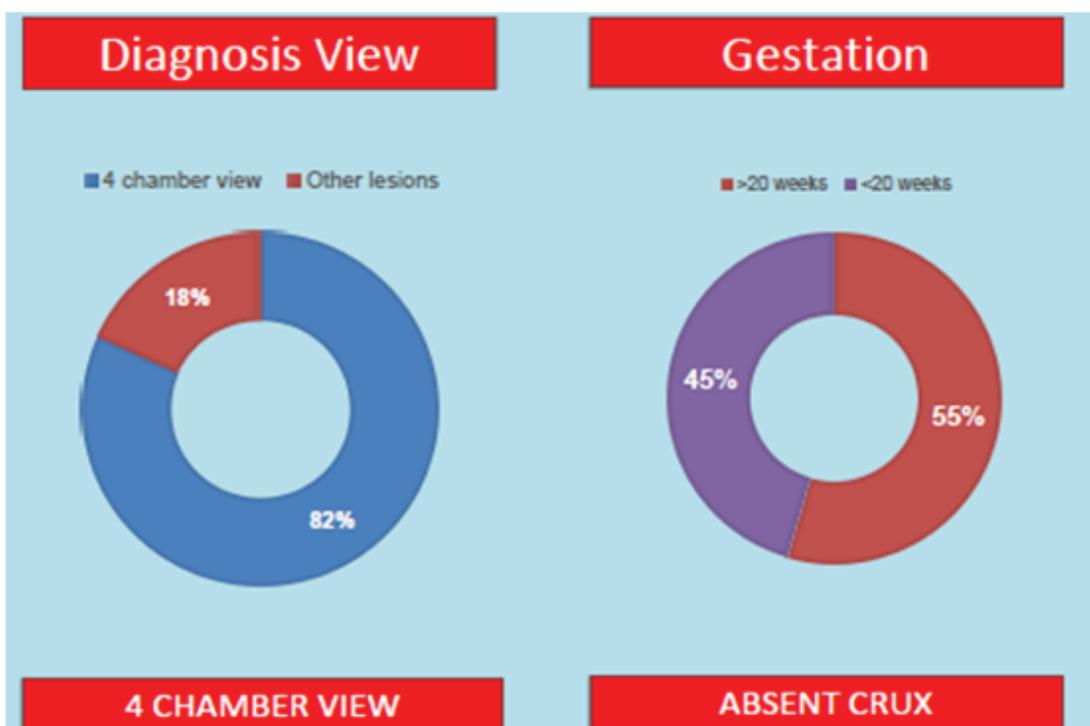
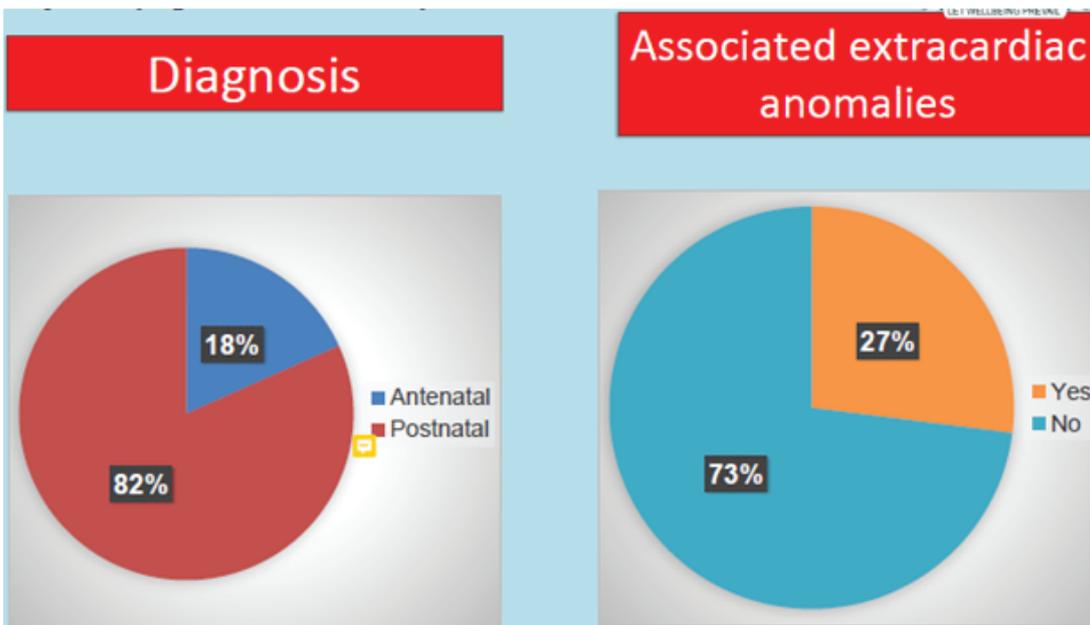
Obtained

H. Data Collected

Antenatal scans were checked for mention on cardiac anomalies. The week of gestation on which, the antenatal scan was done was noted. Any other congenital anomaly or pathology in the scan was noted. Whether the mother received detailed counselling was noted. The child was examined and echocardiography was done by cardiologist. Echocardiography findings were recorded [1-20].

RESULTS

18.3% of cases were diagnosed antenatally. All of the mothers reported that they were given appropriate counselling in the antenatal period. Of the children diagnosed to have congenital heart disease in antenatal scans, 27 percent were said to have additional extracardiac anomalies. 81.8% of cases were diagnosed by 4 chamber view. 54.5% of cases were picked up after 20 weeks.



CONCLUSION

Majority of the cases were diagnosed using 4 chamber view. If great arteries are also studied, the number of cases picked up antenatally will increase. Also, screening at 20-22 increases the detection rate.

BIBLIOGRAPHY

1. Pieper PG, Balci A, Aarnoudse JG, Kampman MA, Sollie KM, et al. ZAHARA II investigators. Uteroplacental blood flow, cardiac function, and pregnancy outcome in women with congenital heart disease. *Circulation*. 2013;128:2478-2487.
2. Frigiola A, Hughes M, Turner M, Taylor A, Marek J, et al. Physiological and phenotypic characteristics of late survivors of tetralogy of fallot repair who are free from pulmonary valve replacement. *Circulation*. 2013; 128:1861-1868.
3. Herskind AM, Almind Pedersen D, Christensen K. Increased prevalence of congenital heart defects in monozygotic and dizygotic twins. *Circulation*. 2013;128:1182-1188.
4. Hill KD, Rhodes JF, Aiyagari R, Baker GH, Bergersen L, et al. Intervention for recoarctation in the single ventricle reconstruction trial: incidence, risk, and outcomes. *Circulation*. 2013;128:954-961.
5. Liu S, Joseph KS, Lisonkova S, Rouleau J, Van den Hof M, et al. Canadian Perinatal Surveillance System (Public Health Agency of Canada). Association between maternal chronic conditions and congenital heart defects: a population-based cohort study. *Circulation*. 2013;128:583-589.
6. Atallah J, Erickson CC, Cecchin F, Dubin AM, Law IH, et al. Diatric and Congenital Electrophysiology Society (PACES). Multi-institutional study of implantable defibrillator lead performance in children and young adults: results of the Pediatric Lead Extractability and Survival Evaluation (PLEASE) study. *Circulation*. 2013;127:2393-2402.
7. van der Linde D, Roos-Hesselink JW, Rizopoulos D, Heuvelman HJ, et al. Surgical outcome of discrete subaortic stenosis in adults: a multicenter study. *Circulation*. 2013;127:1184-1191,e1.
8. Beca J, Gunn JK, Coleman L, Hope A, Reed PW, et al. New white matter brain injury after infant heart surgery is associated with diagnostic group and the use of circulatory arrest. *Circulation*. 2013;127:971-979.
9. Alonso-Gonzalez R, Borgia F, Diller GP, Inuzuka R, Kempny A, et al. Abnormal lung function in adults with congenital heart disease: prevalence, relation to cardiac anatomy, and association with survival. *Circulation*. 2013;127:882-890.
10. van der Bom T, Winter MM, Bouma BJ, Groenink M, Vliegen HW, et al. Effect of valsartan on systemic right ventricular function: a double-blind, randomized, placebo-controlled pilot trial. *Circulation*. 2013;127:322-330.
11. Khairy P, Clair M, Fernandes SM, Blume ED, Powell AJ, et al. Cardiovascular outcomes after the arterial switch operation for D-transposition of the great arteries. *Circulation*. 2013; 127:331-339.
12. Mongeon FP, Gurvitz MZ, Broberg CS, Aboulhosn J, Opatowsky AR, et al. Alliance for Adult Research in Congenital Cardiology (AARCC). Aortic root dilatation in adults with surgically repaired tetralogy of fallot: a multicenter cross-sectional study. *Circulation*. 2013;27:172-179.
13. Videbæk J, Laursen HB, Olsen M, Høfsten DE, Johnsen SP. Long-term nationwide follow-up study of simple congenital heart disease diagnosed in otherwise healthy children. *Circulation*. 2016;133:474-483.
14. Mandalenakis Z, Rosengren A, Lappas G, Eriksson P, Hansson P, Dellborg M. Ischemic stroke in children and young adults with congenital heart disease. *J Am Heart Assoc*. 2016;5:e003071.
15. Billett J, Cowie MR, Gatzoulis MA, Vonder MI, Majeed A. Comorbidity, healthcare utilisation and process of care measures in patients with congenital heart disease in the UK: cross-sectional, population-based study with case-control analysis. *Heart*. 2008;94:1194-1199.
16. Moons P, Van Deyk K, Dedroog D, Troost E, Budts W. Prevalence of cardiovascular risk factors in adults with congenital heart disease. *Eur J Cardiovasc Prev Rehabil*. 2006;13:612.
17. Schwartz SS, Madsen N, Laursen HB, Hirsch R, Olsen MS. Incidence and mortality of adults with pulmonary hypertension and congenital heart disease. *Am J Cardiol*. 2018;121:1610-1616.
18. Olsen M, Marino B, Kaltman J, Laursen H, Jakobsen L, Mahle W, Pearson G, Madsen N. Myocardial infarction in adults with congenital heart disease. *Am J Cardiol*. 2017;120:2272-2277.
19. Faraoni D, Zurakowski D, Vo D, Goobie SM, Yuki K, Brown ML, DiNardo JA. Post-operative outcomes in children with and without congenital heart disease undergoing noncardiac surgery. *J Am Coll Cardiol*. 2016;67:793-801.
20. Dellborg M, Bjork A, Pirouzi FM, Ambring A, Eriksson P, Svensson AM, Gudbjornsdottir S. High mortality and morbidity among adults with congenital heart disease and type 2 diabetes. *Scand Cardiovasc J*. 2015;49:344-350.