

Risk Factors for Congenital Heart Disease: A Case Control Study

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Introduction:

Congenital Heart Disease (CHD) is the most common congenital problem that accounts for up to 25% of all congenital malformations that present in the neonatal period and is leading cause of neonatal and infant mortality. CHD is associated with multiple risk factors, consanguinity may be one such significant factor. This study was done to find out the risk factors for CHD.

Material and Methods

Study was conducted in the Paediatric department of a Rural Medical College in Central India over a period of 2 years (January 2012- February 2014).

It was a 1:2 matched case control study and for each CHD case two age and sex matched controls were recruited in the study. Cases included were 200 with 400 matched controls. All cases were evaluated on clinical basis and 2D ECHO was done for final diagnosis. Detailed history regarding risk factors was enquired.

Results: Out of the total 200 cases of CHD, 163 were acyanotic heart diseases constituting 81.5% and 37 were Cyanotic heart diseases constituting 18.5% of the total CHD cases. Out of the total cases of CHD 15% of the patients had associated anomalies out of which 30% had chromosomal anomalies and the rest 70% had other organ system anomalies. Significant association between prematurity and CHD was observed with OR-16.84. There was no significant association between low birth weight (<2500 gm) and CHD. We got significant association between maternal age>30 yrs and occurrence of CHD on univariate analysis. Significant association was observed between family history of CHD and occurrence of CHD. Significant association was observed between tobacco chewing and occurrence of CHD with $p<0.05$ while there was no association with smoking and alcoholism ($p>0.05$). History of consanguinity was present in 6% of the cases with CHD and there was statistically significant association between consanguinity and occurrence of CHD with OR -9.60(95%CI:2.97-30.96), $p<0.001$.

Conclusion

Analyses of our results show that parental consanguinity, tobacco chewing, family history of CHD, maternal age>30 yrs, and prematurity are independent risk factors for CHD.