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Changing spectrum and outcome of 1281 congenital heart disease diagnosed in utero in 21 years of activity

Ricci C., Morelli C., Fratta F., Di Pietto L., Felicetti M., Vullo G., Tormettino B., Santoro G., Iacono C., Palladino M.T., Russo M.G.
AO Monaldi, SUN, Naples, Italy

Introduction. Congenital heart disease (CHD) are the most common malformations pre and postnatally. Over the years, fetal echocardiography has become a widely practiced technique, and the proportion of prenatally detected cases is increasing, with more-and-more mild CHD detected.
Objective. Assess the changes in the spectrum and the outcome of prenatally detected congenital heart disease in our tertiary care center in 21 years of activity (1995-2015).
Methods and Results. We detected 1281 congenital heart diseases: 25% (315/1281) were associated with extracardiac and/or chromosomal anomalies and 75% (966/1281) were isolated. Termination of pregnancy was chosen in 48% (151/315) for associated anomalies and 19% (183/966) for isolated ($p<0.001$). Of these, more than one half (96/183) occurred for hypoplasic left heart cases. The general survival rate is 72%, it is significantly lower for the group of associated heart diseases (75/164 vs 583/783; 46% vs 75%, $p<0.001$).
Since 1995 to 2005 we diagnosed 678 CHD, the remaining 603 were detected since 2006.
Over 21 years we noticed a significative reduction of the multimalformated foetuses, complex CHD and of the hypoplasic left heart cases and an higher number of aortic arch anomalies and milder anomalies detected, such as ventricular septal defect and pulmonary valve stenosis (203/678 vs 120/603; 30% vs 20%). During the last ten years of activity the survival rate resulted has significantly increased (248/451 vs 435/519; 55% to 84%, $p<0.05$), the termination rate has significantly decreased (227/678 vs 84/603; 33% to 14%, $p<0.001$) and the number of neonatal deaths has significantly reduced (176/451 vs 52/519; 39% to 10%, $p<0.001$).
Conclusion. Over 21 years the spectrum of fetal congenital heart disease has changed and their outcome is significantly improved. The survival and the voluntary termination of the prenatally detected congenital heart disease are strongly influenced by their severity and by the associated extracardiac and/or chromosomal anomalies.