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Outcome of Complete Heart Block Diagnosed in Fetal and Postnatal Life

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Introduction: Congenital complete heart block (CCHB) occurs in approximately 1 in 14,000-20,000 live births. Complete heart block can have a diverse aetiology and carries a significant morbidity and mortality when associated with structural heart disease.
Method: Review of all patients presented to our institution with diagnosis of complete heart block over the past 10 years. We investigated aetiology and outcome of complete heart block in fetal life, infancy and childhood.
Results: 49 patients were diagnosed with complete heart block of which 19 had antenatal diagnosis; seven were diagnosed in infancy, and 23 in childhood. 9 patients had an associated structural heart disease. Among fetal cases, maternal anti-Ro or anti-La antibodies were present in nine (45%). Ten (52%) fetuses had received prenatal dexamethasone and/or beta mimetic treatment, of which one recovered but four died. Total mortality rate was 16% (8/48) of which intrauterine death was responsible in 5 (62.5%). The presence of structural heart disease (55%), fetal diagnosis, maternal antibodies (28%), hydrops, and fetal heart rate lower than 55bpm were associated with higher mortality. Fetal diagnosis showed statistically significant mortality compared to infant and childhood diagnosis ($p<0.0001$, $p=0.005$ respectively). Eight (40%) fetuses received pacemaker insertion after birth. Freedom from pacemaker insertion was better in infant and childhood group.
Conclusions: Complete heart block diagnosed antenatally has strong association with maternal anti-Ro and anti-La antibodies and has poorer outcome compared to that of diagnosed during infancy or childhood. Beta-mimetics and steroids may offer help in selected cases to alter significantly higher mortality of antenatal AV block.