Antenatal diagnostic spectrum and early postnatal outcome of conjoined twins

Mota C.C., Capuruco C.A.B., Brum A.P., Valadares L.C., Lana A.M.A.
Department of Paediatrics, Federal University of Minas Gerais, Belo Horizonte, Brazil

Introduction- Conjoining is a rare event with an incidence of 1:200,000 live births. The organ sharing is the limiting factor for survival and surgical approach. The aims of this study were to evaluate the foetal echocardiographic findings and early postnatal outcome of conjoined twins.

Methods - Retrospective review of the fetal and newborn database and case notes of 11 sets of conjoined twins seen between January 2001 and December 2007 at Hospital das Clínicas-UFMG and diagnosed prenatally by endovaginal and/or transabdominal echocardiography. The confirmation of diagnosis after birth, besides echocardiography, included cardiac catheterization, magnetic resonance and/or surgical or post-mortem findings.

Results - The mean of maternal age was 24.6±5.9y and no maternal complications related to delivery were seen. The gestational age at diagnosis ranged from 12 to 31w (mean=21.2±6.8w; median=25.0w) with a female predominance of 2.1:1.0. Antenatal and postnatal evaluation of the diagnostic aspects and the possibility of surgical approach were concordant. There were 54.5% thoracopagus or thoraco-omphalopagus, 18.2% parapagus and 9.1% each of omphalopagus, ischiopagus and cephalo-thoracopagus. None with two hearts was classified as thoracopagus. The thorax was involved in the fusion in 9(81.9%) cases, of whom two showed two separate hearts and common pericardium. In the remaining 7, the findings involved fused hearts with fused atria, including common atrial chambers, common or straddling atrioventricular valves and complex ventricular structure of three or four ventricles with communication between them by VSD. Anomalies in venous connections were frequent. Besides one judicial termination at the 14th week, four deaths occurred during the prenatal period. Five newborns died, two after surgery.

Conclusions- Conjoined twins presented a dismal prognosis. Thoracic-level fusion was associated with high frequency of fused hearts and complex structural heart disease. The endovaginal echo constituted an important tool for early diagnosis and counseling.