

### Prenatal diagnosis of cardiac tumours and postnatal outcomes

*Mota C.C.C., Capuruço C.A.B, Jamil L.C., Palmerston M.F.*

*Fetal Cardiology Unit-Hospital das Clínicas, Federal University of Minas Gerais-UFMG, DOPSOM, Belo Horizonte, Brazil*

*Fundação de Amparo à Pesquisa do Estado de Minas- FAPEMIG, Belo Horizonte, Brazil*

**Introduction-** Primary cardiac tumours are rare, with a reported prevalence of 0.001 to 0.03% at autopsy series. They are usually benign and may induce life threatening symptoms both, in the pre and postnatal periods. The cardiac manifestations are dependent on location and extension of the masses.

**Objectives-** The aim of this study was to evaluate the morphologic/hemodynamic/functional findings by fetal echocardiography as well as the postnatal outcomes.

**Methods-** The study group consisted of 20 fetuses with cardiac tumours followed from August 1998 to December 2013. The tumours were classified in small (<30 mm<sup>2</sup>), medium (> 30 and < 100mm<sup>2</sup>) and large (> 100mm<sup>2</sup>).

**Results-** Maternal age ranged from 17 to 33 years (mean=22.5±3.6y) and the gestational age at diagnosis ranged from 22 to 34 weeks (mean=31.1±4.8w). The majority (72.7%) of tumours were small (mean =11,0 mm<sup>2</sup>); 21.2% were large (mean= 272.7mm<sup>2</sup>) and 6.1% were classified as medium sized (mean= 60.5mm<sup>2</sup>). Rhabdomyoma, the most common tumour, accounted for 60.0% (12/20) of all cases, and tuberous sclerosis were diagnosed in 8(66.6%) of these patients. There were no histological diagnosis in four patients; mixoma was confirmed in three and teratoma in one. Nineteen fetuses had intracardiac tumours and only one had a pericardial tumour. According to the location, 65.0% (13/20) were seen in the right chambers, 30.0% (5/20) in the left chambers and 5.0% (1/20) in the pericardium. The large tumours were associated with blood flow obstruction (p=0.01), ventricular dysfunction (p=0.00), arrhythmia (p=0.03), congestive heart failure with pericardial effusion, cardiomegaly, hydrops (p=0.01) and death (p=0.00). There were four deaths, three intrauterine and one in the early neonatal period. Of these cases, two patients developed arrhythmia and three had large tumours.

**Conclusions-** All the identified tumours were benign, and rhabdomyoma was the most common. Tuberous sclerosis was observed in almost half the fetuses. Hemodynamic/ functional disturbances and death were correlated with large tumours and location of the masses at the ventricular outlets or inlets. The widespread use of fetal echocardiography has significantly contributed to both, earlier diagnosis and treatment, and thus improved postnatal survival in this population