

# **Incidence of Congenital Cardiac Disease, detected by Fetal Echocardiography, in Azerbaijan**

## **Experience of three centers during a thirty month period**

**Petropoulos A(1,2,3,4), Xudiyeva A(2,4), Valiyeva Q(2), Behbudov V(1),  
MaharramovaT(3), Mustafayeva A(1), Ismayilova M(1)**

**Merkezi Klinika<sup>1</sup>, International Caspian Hospital<sup>2</sup>, XMSK Polyclinic<sup>3</sup>, Azerbaijan Medical University<sup>4</sup>**

**Aim:** To present the incidence of Congenital Heart disease (CHD), detected by fetal echocardiography. This is the experience from 3 centers during a period of 2.5years in Baku, Azerbaijan.

**Population-Method:** Between July 2012 and December 2014 we have initially studied in 3 centers, 372 fetuses that were referred with different indications. Most common were: 1. Inbreeding (first and second degree relatives among parents) (29.17%) 2. Abnormal cardiac screening examination (24.72%) 3. IVF conceived fetuses, (14.86%) 4. Abnormal heart rate or rhythm (9.50%) 5. First-degree relative of a fetus with congenital heart disease (6.81%), 6. Combination of maternal age and increased nuchal translucency (6.40%) 7. Maternal Metabolic disorder (Diabetes Mellitus)(4.71%) 8. Others (1.63%).The initial scans were done mostly after the 21<sup>st</sup> week of gestation, with a mean gestational age (23+/-5 weeks). The assessment was done using color Doppler - 2D echocardiography, by a General Electric Vivid 7 device, with an appropriate cardiac fetal probe and software program. The findings were verified with echocardiography an MRI studies were indicated, post-natal, and postmortem examination in pregnancies that were interrupted.

**Results:** We detected 72 (CHD), (19.35%).

Complex (CDH) were: Complete AV channels (8/11.11%),Tetralogy of Fallot (7/9.72%), Double Outlet RV(6/8.33%), Tricuspid valve atresia(6/8,33%), combination of a (pm)VSD with Aortic arch hypoplasia(3/4.17% and or coactation(5/6.95%), hypoplastic LV Syndrome (4/5.55%), (4/5.55%) of complex VSD's, Simple TGA's (4/5.55%), (1 /1.39%) congenitally corrected TGA with additional VSD and Ebstein type Tricuspid valve defect, (1/1.39%) Ebstein Anomaly and (1/1.39%) Truncus Arteriosus with a criss-cross, heart. The commonest simple defects were VSD's (15/20.83% mostly muscular (11/15.27 and pulmonary (5/6.95%) aortic valve stenosis (2/2.78%). Additionally, detected (4/5.48%) Fetal Arrhythmias from which 2 were transitional and (1/1.37%) permanent (complete A-V block).

**Discussion:** The incidence of detected (CHD) is high, even without including 1<sup>st</sup> trimester screening. Of all detected (CHD), 21 (29.17%) were products inbreeding, by first degree related parents.