4. CONGENITAL HEART DISEASE LEFT -TO- RIGHT SHUNT

Author: Perumal Kishorebisel

Scientific advisor: Pirtu Lucia, PhD, Associate Professor, Department of Pediatrics, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. The congenital heart condition, known as cardiac septal defect, involves lesions in the atrial or ventricular septum, significantly impacting infant and child mortality. This malformation stems from disrupted developmental pathways responsible for heart structure, but the precise genetic, epigenetic, and environmental factors involved remain unclear. Approximately 8-12 of every 1000 live births experience congenital cardiac disease, necessitating around 10,000 surgical interventions annually in the United Kingdom. While these abnormalities often surface during pregnancy or early life, diagnoses may be delayed until later stages. Echocardiography, rapid, affordable, and adept at revealing structural abnormalities, stands as the preferred imaging modality for congenital heart issues.

Aim of study. To evaluate the clinical and paraclinical characteristics of CHD with left to right shunt in relation to defect type and specific characteristics.

Methods and materials. The observational study includes children with atrial septal defect (ASD) and ventricular septal defect (VSD). We randomly chosen 40 patients. 20 patients in a group of A with ASD and in a group B we have a 20 patient with VSD. Criteria of inclusion: preoperative period patient aged 0 to 18. Criteria of exclusion: those who undergone the surgical intervention. Keywords: congenital heart malformation, atrial septal defect, ventricular septal defect, left to right shunt

Results. Group A: Children aged 3.8±0.6 years, with ASD cases including ostium secundum12 (60%), ostium primum 6 (30%), sinus venosus 2(10%). Risk factors: alcohol usage (25%), Down syndrome (30%), maternal age over 35 (15%). Symptoms: dyspnea (20%), fatigue (35%), poor physical development (30%), respiratory infections (10%), chest retractions (5%). Only 7(35%) experienced symptoms. Group B: Children aged 1.1±0.2 years, with VSD cases including membranous 10(50%), muscular 6(30%), infundibular 4(20%). Risk factors: Down syndrome (45%), maternal age over 35 (35%). Symptoms: dyspnea (80%), fatigue (90%), poor physical development (65%), respiratory infections (65%), chest retractions (60%). 18(90%) experienced symptoms. Comparison: Group B experienced pulmonary hypertension more frequently (90% vs. 25% in Group A; $p<0.01$).

Conclusion. Most ASD and VSD diagnoses occur in early childhood. ASD patients are often asymptomatic and identified during routine clinical exams, while VSD tends to manifest clinical signs earlier. ASD typically displays a more benign progression compared to VSD. Although the "ostium secundum" ASD type may close spontaneously, significant-sized ventricular defects can rapidly lead to complications, such as cardiac insufficiency and pulmonary hypertension.