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Short Communication

Evaluation and Management of Congenital Heart Defect a Cardiovascular Disease

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DESCRIPTION

A Congenital Heart Defect (CHD), also known as a congenital heart anomaly or congenital heart disease, is a birth problem in the structure of the heart or major arteries. Cardiovascular illness includes congenital heart defects. The precise type of problem determines the signs and symptoms. Symptoms might range from nonexistent to fatal. When symptoms are present, they may include fatigue, fast breathing, cyanosis (bluish skin), and poor weight growth. Chest discomfort is not a symptom of CHD [1]. The majority of congenital heart abnormalities are unrelated to other illnesses. Heart failure is one of the side effects of CHD. A congenital heart defect frequently has no recognized cause. During pregnancy, certain illnesses like rubella, the use of specific medications or drugs like alcohol or cigarettes, the presence of close relatives among the parents, or the mother's poor nutritional condition or obesity are all risk factors. Another risk factor is having a parent with a congenital cardiac condition. Heart abnormalities are linked to a number of genetic disorders, such as Down syndrome, Turner syndrome, and Marfan syndrome. Depending on whether the kid has the potential to develop bluish in colour, congenital heart problems are categorized into two basic categories: cyanotic heart defects and non-cyanotic heart defects [2]. The heart's inner walls, heart valves, or big blood arteries leading to and from the heart could all be affected by the flaws. Congenital heart defects can be prevented in part by getting vaccinated against rubella, adding iodine to salt, and adding folic acid to certain foods. Some flaws do not require treatment. Others may benefit from catheter-based procedures or heart surgery. Occasionally, a number of operations or a heart transplant are required. Even with complex problems, outcomes are generally favourable with appropriate treatment. The signs and symptoms are related to the type and severity of the heart defect. Although symptoms usually appear early in life, some CHDs can go undetected for a long time. Some children show no symptoms, while others show shortness of breath, cyanosis, fainting, rapid heartbeat, underdevelopment of limbs and muscles, poor feeding or growth, or respiratory infections [3]. Congenital heart defects result in abnormal heart structure, which produces certain sounds known as rapid heartbeat. Auscultation can sometimes detect these; however, not all rapid heartbeat are caused by congenital heart defects.

The evaluation of CHD patients requires a thorough understanding of the original anatomy and physiology; the dynamic changes that occur over time; the effects of "adult" disease (e.g., systemic arterial hypertension, coronary artery disease) or conditions (e.g., pregnancy) superimposed on the native physiology; the types of operative repair (both past and present) for each lesion; and the presence and extent of possible postoperative residua, sequel. Patients with simple CHD, on the whole, require a low level of clinical care aimed at preventing complications (eg, endocarditis). Those with medium or high-risk CHD may need extensive evaluation and management of cardiac function, arrhythmias, surgical revisions, genetic counselling, and pregnancy concerns. The offspring of women with CHD have a significantly higher incidence of CHD, ranging from 5% to 6%, and their cardiac lesions are frequently different from the mother's. Severe pulmonary hypertension (3/4 systemic), functional class III or IV heart failure (due to ventricular dysfunction), Marfan's syndrome with an aortic root diameter of 40 mm (unpredictable risk of aortic dissection and rupture), severe cyanosis (due to adverse foetal outcome), and severe obstructive lesions are contraindications to pregnancy [4].

Patients with severe fixed obstructive lesions (e.g., aortic stenosis, pulmonary stenosis, and hypertrophic obstructive cardiomyopathy) can tolerate the hemodynamic changes that occur during pregnancy (40% to 50% increase in plasma volume) poorly due to their inability to increase cardiac output. Pregnant CHD patients should be managed in a tertiary care centre with Adult Congenital Heart Disease (ACHD) expertise. The prevention or treatment of Infective Endocarditis (IE) is a recurring theme. Physical appearance, arterial pulse, jugular venous pulse, precordial palpation, and auscultation are the five primary sources of information used in a thorough physical examination. Physical examination alone can be diagnostic in many lesions [5]. Regular Electrocardiograms (ECG) can be useful in measuring the QRS and QT duration, which can predict

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the likelihood of developing ventricular tachycardia in the future. Individuals with the Mustard or Senning procedure for D-transposition of great arteries, post-Fontan procedure, and corrected TOF are at a higher risk for arrhythmias. Noninvasive imaging procedures such as standard chest X-rays, echocardiograms, Computed Tomography (CT), and magnetic resonance imaging are useful in identifying the anatomical and functional characteristics of the disease and any related problems Magnetic Resonance Imaging (MRI). For the majority of CHD patients, comprehensive 2-D echocardiography with spectral Doppler, color-flow imaging, and echocontrast is regarded as the gold standard for diagnosis and follow-up evaluation. Finally, it is crucial to be knowledgeable about the various "palliative" and "corrective" surgery types and any potential long-term effects.

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