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Outcome of Congenital heart block, single center experance

Introduction:

Atrioventricular (AV) block is defined as a delay or interruption in the transmission of an impulse from the atria to the ventricles as a result of an anatomical or functional impairment in the conduction system. Atrioventricular block is regarded as congenital when it occurs spontaneously in a fetus or young child. The incidence of congenital CHB in the general population varies between 1 in 15,000 to 1 in 22,000 live-born infants . The etiologies of congenital CHB include autoimmune antibodies, structural heart abnormalities due to congenital heart disease (e.g. congenitally corrected transposition of the great arteries, endocardial cushion defects), and Idiopathic familial congenital CHB . The manifestations of congenital CHB vary according to the age at presentation, underlying etiology, ventricular rate of the escape rhythm, and ventricular function. The management options for congenital CHB in utero are limited, and treatment of the fetus with CHB is primarily expectant. For neonates and children who present later with congenital CHB, the principal therapeutic decision involves the need for and the potential timing of permanent pacemaker insertion. For older children who are able to express themselves about symptoms, the presence or absence of symptoms will help to decide.

Method and Material:

Electronic database for charts of all children with congenital heart block from 2011-2020 was searched. Patients demographic profile including age, sex, and weight as well as history of maternal lupus, age of diagnosis, data from echocardiography, initial heart rate, need for pacemaker insertion, and drug history were gathered and recorded in proper questionnaires.

Results:

It was observed that moderate mitral valvular insufficiency is significantly associated with the mortality of congenital heart block (P= 0.026). In addition, right ventricular dilation was significantly associated with congenital heart block mortality (P= 0.039). Furthermore, type of delivery was significantly associated with congenital heart block mortality; on the other hand, the mortality rate in congenital heart disease patients who were born through natural vaginal delivery (NVD) was significantly higher than caesarian section patients (P= 0.044). Moreover, the presence of fatigue in CHB patients was significantly associated with the mortality in these patients (P= 0.001). Diagnosis of CHB in > 5-year-old has a significant association with the need of pacemaker (P= 0.005). In addition, patients with moderate mitral valvular insufficiency are more susceptible for the need of pacemaker (P= 0.011)

Conclusion:

While moderate mitral valvular insufficiency, right ventricular dilation, type of delivery and fatigue were features significantly associated with risk of mortality in CHB patients, diagnosis of CHB in patients > 5-years-old and moderate mitral valvular insufficiency were factors suggesting the need for pacemaker treatment in these patients.

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