unfortunately the valve was so damaged that we opted for mitral valve replacement.

http://dx.doi:10.1016/j.jsha.2013.03.135

Difficulties in percutaneous closure of atrial septal defect associated with situs solitus and dextrocardia

Muhammad Arif Khan, Milad Elsegaier, Abdulrahman Almoukirish, Mohammed Omar Galal

Background: Percutaneous closure of secondum atrial septal defect (ASD II) in cases of dextrocardia and situs inversus has been reported in only very few cases in the literature. ASD II device closure in case of isolated dextrocardia with situs solitus, according to our knowledge, was never reported before.

Objective: To describe the unexpected problems encountered in decision making during the deployment of the device in a case of ASD-II with dextrocardia and situs solitus.

Methods and results: 19 months old girl, a case of situs solitus, dextrocardia, fenestrated ASD-II, moderate pulmonary hypertension since 4 months of age.

Echocardiography showed situs solitus, dextrocardia, persistent left superior vena cava draining to coronary sinus and normal pulmonary veins. Fenestrated ASD-II (12 mm size in total) with left to right shunt. The total septal length was 28 mm. Volume loaded right atrium and right ventricle.

The procedure

During cardiac catheterization we found that in situs solitus with dextrocardia, the left atrium is more superior in relation to the right atrium and the septum seems to be more horizontally oriented. Therefore, when probing the left pulmonary veins, in the lateral view, it appeared much more anteriorly, than anticipated. Despite these difficulties we could deploy and release the device in stable and safe position. Post catheterization, X-Ray of the chest, showed device in good position. The post cath ECG was unchanged. Echocardiography 24 h after the procedure showed device in good position and sandwiching the rims well with no residual shunt.

Conclusion: Our case highlights the technical difficulties encountered during device closure of ASD II in a case with situs solitus associated with dextrocardia. It further shows that though it is doable, but attention should be paid to the abnormal orientation of the interatrial septum and guidance by hand injections as well as the pressure tracing are occasionally more important than TEE. To the best of our knowledge, this is the first report of a case of successful ASD device closure in a patient with situs solitus and dextrocardia.

http://dx.doi:10.1016/j.jsha.2013.03.136

Electrocardiographic changes in cases of duchenne muscular dystrophy

Muhammad Ari Khan, Yahya Almashham, Abdulrehman Almoukirish, Tarek Sulaiman Momenah, Abdulaziz Alsaman, Abdullah Aljarallah

Background: Duchene muscular dystrophy is an x-linked recessive progressive muscular disease. It presents in first year of life and is fatal by second decade mostly because of respiratory involvement and in 10% case because of cardiac failure. The cardiac involvement usually occurs after 10 years age. The incidence of cardiac involvement increases with increasing age affecting all patients by age of 18 years.

Duchene muscular dystrophy(DMD) usually leads to dilated cardiomyopathy (DCM), congestive cardiac failure, arrhythmias, & sudden cardiac death. DMD may be associated with various ECG changes like sinus tachycardia, reduction of circadian index, decreased heart rate variability, short PR interval, right ventricular hypertrophy, S-T segment depression and prolonged QTc. Rarely it might be associated with Wolf Parkinson White syndrome(WPW syndrome). WPW syndrome is characterized by short PR interval, delta wave, and wide QRS complex and is a surface evidence of accessory pathway. It might be associated with supraventricular tachycardia and sudden cardiac death from ventricular tachycardia.

Aim: To study ECG findings in cases of Duchenne muscular dystrophy.

Materials and methods: The study was conducted at Pediatric cardiology department, Prince Salman Heart Centre Riyadh. All patients diagnosed as Duchenne muscular dystrophy were included in the study. The diagnostic criteria were clinical, biochemical and confirmed by PCR. All patients underwent 12 lead ECG and long lead II in recumbent posture and 24 h holter monitoring and echocardiogram. The 24 h holter was applied to all patients. The were given a diary to record any symptoms like palpitation, syncope, chest pain or dyspnea during 24 holter monitoring. The holters were reviewed for heart rate and presence of any ectopics or arrhythmias. The electrocardiogram of all patients were reviewed and following parameters were noted ; characteristics heart rate, R waves, waves, R–S ratio, PR interval, delata wave, Q waves, QT interval, T wave, ST segment. The aforementioned ECG parameters were studied and measured manually and compared with published standard age matched normal values. The abnormal were findings were defined if were away from minimal or maximal limits for that age.

Results: A total of 20 patients were studied. All were male. The mean age of patients was 10 years. The mean weight of patients was 34.5 kg. Majority of patients (75%) were where wheelchair bound and 25% were ambulatory. The ECG abnormalities were noted in 80% of patients. Sinus tachycardia was present in 60% of patients. Tall R waves were present in 45% of patients with RS ratio more than 1 in lead V1 as well as deep S

waves in leads V5 and V6.Short PR interval was noted in 3(15%) of patients. One patient had was diagnosed as WPW syndrome and had short PR interval, delta wave and wide QRS complex. 24 h holter monitoring was normal in all patients.

Discussion: The most frequent electrocardiographic findings described in cases of Duchenne muscular dystrophy are sinus tachycardia and tall R waves in right precordial leads as seen in our study. Similar findings are also observed in female carriers of Duchenne muscular dystrophy gene. The presence of sinus tachycardia may suggest cardiac dysfunction or autonomic dysregulation in these cases. Other interesting finding in our cases was short PR interval in 3 cases(15%) and presence of WPW syndrome features in one patient. We planned further study in these patients to correlate clinical, biochemical, echo and ECG findings.

http://dx.doi:10.1016/j.jsha.2013.03.137

Maternal preferences regarding counseling of congenital heart disease in their children at a tertiary care hospital

Muhammad Arif Khan, Abdurrahman Almoukirish, Omar H. Kasule, Mohammed Omar Galal

Background: Communicating bad news to mothers of children with congenital heart disease (CHD) is a challenging task and an ethical dilemma for the physician. It is never a pleasant task but breaking it at the wrong time or in the wrong way can be even worse, so it's important to know the best approaches to breaking bad news.

Aim: To know the preferences of mothers regarding breaking bad news about the diagnosis of congenital heart disease in their children.

Methods: The study was conducted in our Pediatric Cardiology Department between 1st October 2010 to 1st September 2012. A cross sectional interview was conducted including Saudi mothers whose children had CHD. The questionnaire consisted of 27 questions. Verbal consent was obtained.

Results: Total 889 mothers were included in the study and 39 refused to participate in the survey. The results revealed that 58.4% mothers were from urban areas while 41.6 from villages and 98.3% were educated. Based on answers to questionnaire we found 20 different preferences. Counseling is preferred: immediately after diagnosis 92.7%, directly in person 99.9%, both parents present 96.4%, single session counseling 92.2%, detailed counseling 93.9%, detailed medical report 98.2%, isolated and quiet place of counseling 64.3%, counseling with help of heart model 85.3%. Most mothers want counseling by their primary physician 92.3%. The mothers accepted to have their nurse present at time of counseling but not relative or friend.

Discussion: Counseling parents about diagnosis of congenital heart disease in their children is a challenging task for physician and an ethical dilemma. The diagnosis of any congenital heart disease in children leads to parental anxiety. Our results confirm previously reported preferences by mothers from western countries and Egypt to be told early, detailed and in person. We found that mothers want a completely quiet room, presence of nurse and detailed counseling as well as detailed medical report both in paper and electronic form. They want counseling to be done by their primary physician.

Conclusion: Our study delineates that mothers of patients with CHD in our area have clear preferences for how bad news should be conveyed to them. We believe that following these directions might reduce their anxiety to an accepted level.

http://dx.doi:10.1016/j.jsha.2013.03.138

Do we need more than echocardiography before cardiac surgery for children with congenital heart defects

Muna Ismail Ahmed Ismail, Fahad Alhabshan
King Abdulaziz Cardiac Center, NGHA, Riyadh

Objectives: Detailed echocardiographic evaluation for children with congenital heart defects (CHD) can give a lot of information about the pathology. In this study, we aimed to verify whether echocardiography can be used as the main diagnostic modalityto evaluate children undergoing surgery to repair congenital heart defects (CHD).

Methods: A retrospective review of all patients underwent cardiac surgery for CHD between January 2011 and December 2011 at King Abdulaziz Cardiac Center. The cardiac and hospital data base was reviewed for the diagnostic modalities used before cardiac surgery. The indications and additional value for tests other than echocardiography were evaluated.

Results: During the study period 392 patients fulfill the inclusion criteria. 269 (69%) patients underwent cardiac surgery based on echocardiography as the only diagnostic tool. 123 patients (31%) required diagnostic modalities other than echocardiography with one patient underwent cardiac MRI before pulmonary valve replacement, 36/123 patients (30%) underwent computerized tomography (CT) for vascular angiography. and 86 patients (70%) required cardiac catheterization of those 50/86 patients (58%) for hemodynamic assessment. Among all patients Echocardiography provided accurate diagnosis in 317 patients (81%) with confirmatory finding provided by the other diagnostic modality, while 75 patients (19%) were found to have additional diagnostic finding in the other diagnostic modality used. Only 7 patients (0.02%) were found to have additional diagnostic findings intra-operatively.

Conclusion: Echocardiography can be used as the main diagnostic modality in majority of children requiring cardiac surgery. Other modalities can be used with limited indications.

http://dx.doi:10.1016/j.jsha.2013.03.139