Role of imaging in patients with congenital heart diseases, attending pediatric cardiac clinic at Muhimbili National Hospital.

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ABSTRACT

BACKGROUND:

Congenital heart disease (CHD) afflicts a large number of children every year worldwide. Anderson J.R. et al estimates the incidence of CHD to be approximately 8: 1000 live births [1]. The incidence of CHD in Tanzania was found to be 7: 1000 live births [2]. Chest imaging is an important modality in the diagnosis of congenital heart diseases along with clinical presentations. Certain imaging investigations such as plain chest X ray (CXR) and echocardiography (ECHO) are used to diagnose as well as to differentiate the type of CHD in our set up, although currently cardiac magnetic resonance imaging (MRI) is one of the most important imaging modality used to diagnose and classify CHD.

OBJECTIVE:

Role of imaging in congenital heart disease patients who attended Cardiac clinic in Pediatric department at MNH from June to December 2011.

METHODS:

This was a hospital based descriptive cross sectional study whereby a convenient sample of 150 patients were obtained from a list of all CHD patients who attended Cardiac clinic in Pediatrics department at MNH, Dar es salaam, Tanzania from June to December 2011. All patients were investigated by using CXR and ECHO. The collected data was analyzed using SPSS version 15. Statistical level of significance was set at $p < 0.05$.

Results:

Male: female ratio of the study population was 1.2: 1, no association was found between sex and various types of CHDs. A total of seven different types of CHDs were found as well as others who presented with multiple defects, among these VSD was seen in 34.7 % of patients. Association between maternal alcohol consumption with VSD was found. The sensitivity of CXR for cardiac enlargement was 53%. 43.3% of clinical diagnosis was similar to the final Radiological diagnosis.

Conclusion:

VSD being the commonest type of CHD in this study, left sided cardiac enlargement was the commonest imaging finding. Sensitivity of CXR is higher to pick aortic and pulmonary artery enlargement compared to chamber enlargement. Male and female are almost equally affected by CHD. For diagnosis of CHD, clinical findings should be combined with CXR and echocardiography findings..

Recommendation:

Digitalization of x ray unit. To conduct similar studies taking larger sample size and including peripheral hospitals. Regular quality control of the imaging unit. Along with CXR and echocardiography more advanced imaging modalities like cardiac MRI should be used to diagnose the complex CHDs.