Does MRI have a complementary role to echocardiography in diagnosing Congenital Anomalies of the Great vessels within the Thorax?

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Abstract

Introduction

While many abnormalities of the aorta and pulmonary arteries may be visualized by two-dimensional echocardiography, these vessels sometimes defy detection due to several factors. MRI has proved to be a reliable, non invasive method for detecting congenital anomalies of the great vessels.

Objective

Our aim is to signify the role of MRI in detecting and diagnosing congenital vascular anomalies of the great vessels in the thorax.

Patients and methods:

We prospectively examined 27 patients ranging in age between 3 months- 33 years, diagnosed as having congenital anomalies of the great vessels by echocardiography.

Result

MRI diagnosed 22 different types of aortic anomalies, 5 types of pulmonary artery anomaly and two cases of anomalies in the SVC. Five cases had complex anomalies. MRI showed total agreement to the echocardiographic findings in 18 cases. MRI changed the diagnosis of echocardiography in three cases and added information that was crucial for patient management in eight cases.

Conclusion

MRI is an accurate and reliable method in detecting congenital anomalies of the great vessels within the thorax. We recommend that it should be done in all cases with suspected congenital anomalies of the great vessels as it yields information that might be crucial for surgical planning of the patient.