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## Prediction of pulmonary regurge and right ventricular function in asymptomatic repaired tetralogy of fallotpatients in developing countries: A comparison to cardiac MRI

Doaa Gaber Mahgoub Aly

Cairo University Specialized Children's Hospital, Egypt

Background: Although long-term outcome of Tetralogy of Fallot (TOF) surgical repair in developing countries is still unknown, pulmonary regurgitation (PR) remains the most important post repair lesion influencing earlier morbidities. We aimed at comparing echocardiographic measurements for quantification of PR and right ventricular (RV) function to those incardiac MRI (CMR).

Methods: 25 asymptomatic corrected TOF patients (9.2±4 years) were compared to 20 matched healthy children. RV functions were assessed by myocardial performance index (MPI) obtained by TDI and myocardial tissue velocities. Results were compared to RV volumes and ejection fraction (RVEF) by CMR. Echo variables for quantification of PR were: (1)PR jet width /PA diameter, (2)Pulmonary pressure half time, (3)Pulmonary regurge index (PRi); PR duration to diastole duration, (4)No flow time; diastole duration- PR duration and (5) diastole systole time velocity integral ratio.

Results: By logistic regression, PRi and no flow time had the best prediction for severity of PR. ROC curve analysis showed sensitivity= 86.36%, specificity=100% and cut-off value=0.8 for PRi, and a sensitivity= 81%, specificity=100% and cut-off value= 64msec for no flow time. RV myocardial velocities were significantly lower while E/ E' ratio and MPI were significantly higher than in normal controls. No significant correlation between TDI and CMR measurements for RV functions was shown in our study.

Conclusion: Echocardiography may offer a readily available and accurate complementary approach for prediction of severity of PR and assessment of RV function in corrected TOF patients in developing countries, where routine follow up with CMR may be challenging.

## **Biography**

Doaa Gaber Mahgoub Aly has obtained her Master's degree in Pediatrics from Cairo University School of Medicine at the age of 28 years, shortly after she finished with her general pediatric residency training at Cairo University Specialized Children's Hospital. Currently she's a 2nd year pediatric Cardiology fellow at the same hospital. She has developed an increasing interest in the area of cardiac postoperative medicine to which she dedicated most of her research work.

doaamaha@gmail.com