

Background: Recent refinements in percutaneous techniques have resulted in an increase in the numbers of patients with diffuse coronary artery disease who are referred to cardiac surgeons. Long reconstruction of the diffusely diseased vessel may be a useful surgical option. Close and careful follow up of such subgroup of patients is mandatory. Invasive graft angiography serves as the diagnostic standard for follow up of graft patency for such extensive procedure; however, because of the risks, discomfort, and costs of a hospital stay, a noninvasive diagnostic tool is desirable. MDCT angiography is a noninvasive and safe alternative to assess graft patency in patients after CABG with reconstructed diffusely diseased vessels.

Methods: Between July 2007 and September 2011, 62 patients with the diffusely diseased LAD underwent a long-segmental reconstruction procedure with a LITA graft. The diffusely diseased LAD was extensively incised, additional endarterectomy was performed if necessary, and then the LAD was reconstructed with an ITA graft in a long on-lay fashion. Postoperative MDCT angiography as a non invasive single tool was performed in 25 asymptomatic patients to assess graft patency with at least 6 months postoperative period.

Results: The cohort consisted of 23 men (92%) and 2 women (8%), and the mean age was 58.5 ± 9.2 years. The mean length of the arteriotomy incision was 3.5 ± 1.2 cm (range, 2.5–5 cm). Endarterectomy was performed in 3 patients (12%). perioperative MI was recorded among 1 patient (4%). ITA to LAD graft was patent in all patients (100%) including that patient who had perioperative MI. Other incidental findings were found in venous grafts.

Conclusion: Extensive reconstruction of the diffusely diseased LAD using an ITA graft could be performed safely with very encouraging results. MDCT angiography is an excellent non invasive tool not only to evaluate graft patency in the reconstructed LAD but also to detect other findings in asymptomatic patients with diffuse coronary artery disease for better and more close follow up.

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Myocardial performance in children with autoimmune hepatitis: Doppler tissue imaging study

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Purpose: The aim of this study was to assess subclinical impact of autoimmune hepatitis (AIH) on global myocardial performance in children using Doppler tissue imaging (DTI) and to correlate it with total serum IgG.

Methods: We included 30 children with AIH (mean age = 12.67 ± 2.9 years) as the study group and 20 age and sex matched healthy children (mean age = 11.93 ± 2.66 years) as the control group. Conventional two-dimensional echocardiography was performed to both groups and DTI were used to determine Right ventricular (RV) and left ventricular (LV) Tei indexes. Total serum IgG levels at initial diagnosis of AIH were retrieved from our hospital data-base and were correlated to the cardiac functions of AIH patients.

Results: Right ventricular (RV) and left ventricular (LV) Tei indexes were significantly higher in AIH group (mean \pm SD: 0.46 ± 0.088 vs. 0.26 ± 0.01 , $P < 0.0001$ and 0.45 ± 0.086 vs. 0.31 ± 0.02 , $P < 0.0001$, respectively). Mitral and tricuspid systolic (Sm) velocities

were significantly lower in AIH children (mean \pm SD: 8.226 ± 1.73 vs. 9.93 ± 0.94 cm/s, $P = 0.0002$ and 10.85 ± 1.11 vs. 12.48 ± 0.53 cm/s, $P < 0.0001$, respectively). Total IgG concentrations were significantly higher in AIH children [mean \pm SD: 2841.3 ± 607.17 vs. 862.67 ± 70.35 mg/dl, $P < 0.0001$], and they correlated positively with the LV Tei index ($r = 0.69$, $P < 0.0001$) and the RV Tei index ($r = 0.61$, $P < 0.0003$) and correlated negatively with the mitral systolic (Sm) velocity ($r = -0.76$, $P < 0.0001$) and tricuspid systolic (Sm) velocity ($r = -0.66$, $P < 0.0001$), on the other hand, fractional shortening (FS) did not correlate with serum IgG concentrations ($r = -0.04$, $P = 0.821$).

Conclusion: The DTI technique appears to be more sensitive than conventional echocardiography in the early detection of myocardial dysfunction in AIH children.

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NHI program for introducing thoracoscopic minimally invasive mitral and tricuspid valve surgery

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Background: In the last decade worldwide and in Egypt, there is an increasing interest and patient demand for minimally invasive cardiac surgery.

Methods and results: Since February 12, 2013 till May 9, 2013, six patients underwent thoracoscopic mitral and tricuspid valve surgery (1 tricuspid valve replacement, 1 mitral valve repair, 2 mitral valve replacement, 2 mitral valve replacement and tricuspid repair). Pre-dominant rheumatic in MVR and 1 case was degenerative and the tricuspid case was infective endocarditis. Mean age was 35 years. The procedure was successfully performed in all in the form of 4–5 cm right submammary incision with femoro-femoral cannulation for CPB and long shafted instruments with the aid of thoracoscopic view. Conversion rate to open procedure was (0%). No Hospital mortality was encountered (0%). Mean Bypass time was (90 min) and the cross clamp time was (65 min). This time is decreasing gradually towards conventional procedure times. Ventilation time was (7 h) and post-operative ICU stay was 3 days. Postoperative morbidity included right phrenic nerve palsy in one patient which recovered after two weeks. Echocardiographic follow-up showed trivial degree of mitral regurgitation (MVP) and well functioning prosthetic valve in the other four. The tricuspid valve showed well-functioning tissue valve with no paravalvular leak (one case) and mild regurge in the repair group (5 patients MVR + TR). All the patients reported mild postoperative pain and felt they had a pleasing scar. All patients were back to work and usual household activities within 4 weeks.

Conclusions: Thoracoscopic minimally invasive mitral valve surgery can be performed safely but definitely requires a learning curve. Good results and a high patient satisfaction are guaranteed. We now utilize this approach for isolated atrioventricular valve disease and our plan is to make this exclusive by the end of this year for all the patients except Redo Cases.

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