

Radiofrequency ablation for hypertrophic obstructive cardiomyopathy: A novel technique to reduce left ventricular outflow tract gradient

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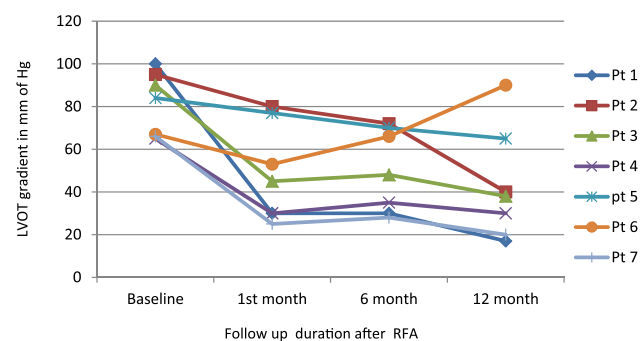
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Background: Alcohol septal ablation (ASA) is an acceptable alternative to surgical myectomy in patients with hypertrophic obstructive cardiomyopathy (HOCM). However, the anatomical variability of septal branch, risk of complete heart block (CHB) limits its therapeutic use. Recently radiofrequency ablation (RFA) of septum has shown reduction in gradient, although with considerable risk of CHB.

Methods: Seven symptomatic HOCM patients (mean age 43.7 ± 15.6 yrs, 5 men) with significant gradients on drug therapy were studied. These patients were unwilling for surgery and had unfavorable anatomy for ASA. Trans-aortic route was used to approach the LV septum. Areas with left bundle branch, left HIS signals, fascicular potentials were tagged using 3 D electro-anatomical system (CARTO or NavX) to avoid RFA in these areas. Ablation of left septum was performed using open irrigated tip catheter in transition zone of pressure where maximum bulge of LV septum was seen on intracardiac echocardiography. Patients were followed up at 1, 6 and 12 months post procedure.

Results: Baseline mean LVOT gradient by Doppler echocardiography was 81 ± 14.8 mm of Hg. Post procedure mean Doppler echocardiography gradients were 48.5 ± 22.6 mm of Hg (P value -0.004), 49.8 ± 19.3 mm of Hg (P value -0.004), 42.8 ± 26.1 mm of Hg (W=2, significant at $p \leq 0.05$) at 1, 6 and 12 months respectively. Mean NYHA class improved from 3.0 to 1.5 ± 0.7 . One patient with severe mitral regurgitation underwent surgical myectomy and mitral valve replacement for persistent symptoms and high gradients. One patient developed pulmonary edema immediate post procedure. She was managed with invasive ventilation and I.V. diuretics. No one developed peri or post procedure conduction disturbances or other complications.

Conclusions: RFA in patients with HOCM causes sustained reduction in the LVOT gradient and symptomatic improvement. Technical difficulty in catheter manipulation and septal contact may influence the outcome.



Effect of vitamin D supplementation with patients with NYHA class 2 and 3

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Aim: To study the effect of vitamin D supplementation on ejection fraction (EF) and six minute walk test (WT) in patients with New York Heart Association (NYHA) class 2 and 3 failure patients.

Methods: Thirty subjects (M:F 19:11) (68.6 ± 12 yrs) with NYHA class 2-3 were assessed for their history of diabetes, hypertension, ischemic heart disease (IHD), drug intake, ejection fraction (EF), six minute walk test (WT) and biochemical parameters namely, serum albumin (S.Alb), calcium (S.Ca), phosphorous (S.Phos), creatinine (S.Cr), 25 OH vitamin D (VITD) and parathyroid hormone (PTH). Each individual were given injection cholecalciferol 600,000 IU and their EF, WT and biochemical parameters assessed after two months. Statistical analysis was done by SPSS software. Non parametric test were used for analysis (Wilcoxon signed ranks test).

Results: The patient categorization: were 12 diabetics, 12 hypertensives, 8 with IHD, 21 with NYHA class 2 and 9 with class 3, 13 with Aspirin, 27 with ACE/ARB; 27 on loop diuretics, 28 on aldactone, 27 on beta blockers. The baseline biochemical parameters were S.Alb 3.5 ± 0.43 g/dl; S.Cr 1.06 ± 0.4 mg/dl; S.Ca 9 ± 0.93 mg/dl; S.Phos 3.5 ± 0.37 mg/dl; S.PTH 57 ± 9 pg/ml; VITD 7.3 ± 1.5 ng/ml. Post supplementation the VITD levels rose to 23 ± 5.2 ng/ml ($Z = -4.703$; $P < 0.0001$). The baseline and post vitamin D supplementation values were EF 28.77 ± 5.5 Vs $29.42 \pm 4.3\%$ ($Z = -1.934$; $P < 0.05$); WT 296 ± 98 Vs 308.6 ± 96 ($Z = -1.675$; $P < 0.09$). The whole group was analyzed after sub categorization NYHC and the type of therapy. Walk test improved in patients without IHD WT 278 ± 106 Vs 295 ± 103 ($Z = -2.173$; $P < 0.03$) and those without aspirin therapy WT 263 ± 103.5 Vs 282 ± 104 ($Z = -1.929$; $P < 0.05$). There was no significant difference between NYHC 2 and 3; diabetics and non diabetics; hypertension and non hypertensives; treatment with or without ACE/ARB, loop diuretics, aldactone, beta blockers and digitalis therapy.

Conclusions: Normalization 25 OH vitamin D levels with vitamin D supplementation improved the EF and WT in patients without IHD; without aspirin therapy in subjects with NYHA class 2 and 3 failures. Studies with larger cohort in various categories will be more informative.

Prognostic indicators of heart failure in Indian subjects

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Background: Heart failure is a common cardiovascular disease with high mortality and morbidity and its incidence is increasing. In India it affects younger age group. Present study aims at identifying all patients with chronic heart failure in Indian population over a period of two years at a tertiary care hospital. We aimed to identify primary etiology of heart failure and delineate the