ACUTE HEMODYNAMIC EFFECTS OF CARVEDILOL VERSUS METOPROLOL IN IDIOPATHIC DILATED CARDIOMYOPATHY

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Carvedilol (C) is a mildly selective β_1 blocking agent with vasodilator properties via α_1-blockade. Because of this vasodilator property, C may be better tolerated in dilated cardiomyopathy than "pure" β-blockers such as metoprolol (M). We tested this hypothesis by comparing the acute hemodynamic effects of C and M. Drugs were randomly given in a oral dose of 6.25 mg q 12 hours and pts were monitored for 24 hours. Both drugs were well tolerated with no side effects. Data from baseline were compared to combined data collected 2 and 4 hours after both doses and are given as x±SD (* $p \leq 0.05$; # $p \leq 0.01$).

	METOPROLOL (7 pts)		CARVEDILOL (14 pts)	
	Baseline	2-4 hours	Baseline	2-4 hours
HR (beats/min)	93±16	89±14 *	85±21	83±18 *
MAP (mmHg)	91±12	90±14	83±10	79±9 #
MRAP (mmHg)	7±4	7±3	5±2	4±2
MPAP (mmHg)	30±9	32±7	23±7	22±6
MPAWP(mmHg)	17±8	17±7	13±6	11±5 *
CI(l/min/m²)	2.4±0.6	2.3±0.5	2.3±0.5	2.4±0.4
SVR (RU)	18.0±5.3	18.0±6.1	18.2±4.6	16.8±3.7*

LEGEND: HR=heart rate; MAP=mean arterial pressure; MPAP=mean pulmonary artery pressure; MPAWP=mean pulmonary artery wedge pressure; CI= cardiac index; SVR=systemic vascular resistance.

CONCLUSIONS: 1) M and C had similar heart rate effects suggesting a similar degree of β-blockade; and 2) C but not M reduced systemic blood pressure, systemic vascular resistance and LV filling pressure, indicating a direct vasodilator effect. These effects would be expected to be beneficial in heart failure.

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VALIDATION OF PREOPERATIVE ECHO FINDINGS IN PATIENTS UNDERGOING MITRAL VALVE REPAIR

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Decision regarding suitability for repair of a diseased mitral valve (MV) is based on certain morphological features of the MV apparatus observed at surgery. To determine whether these features can be detected by echo, we performed preop validation studies using transthoracic and transesophageal 2-D echo on 50 Pts undergoing MV repair in whom subsequent direct observations were made at surgery in a double-blind fashion. Results: The (%) predictive value positive (PV+) and negative (PV-), and the accuracy (ACC) for LA thrombus, all were 100. Corresponding PV+, PV- and ACC were: For anterior cusp: thickening (93,0,89), calcification (all 100), mobility (93, 100,93), billowing (I*,100,100), prolapse (100, 93,95), and retraction (I,92,92). For posterior cusp: thickening (93,50,91), calcification (100, 93,93), mobility (100,81,86), billowing (I,100, 100), prolapse (I,100,100) and retraction (80, 71,72). PV+, PV- and ACC for anterior and posterior commissural fusion and calcification ranged from 87 to 100. Conclusion: Observations on the detailed echo anatomy of the MV are sufficiently predictive and accurate to be of potential value to the surgeon in selecting patients suitable for MV repair.

*I Indeterminate due to lack of positives in the sample.

FLOSEQUINAN IMPROVES LEFT VENTRICULAR RELAXATION IN PATIENTS WITH HEART FAILURE

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We have recently shown that flosequinan, a nev drug for heart failure, has a positive inotropic affect in addition to its vasodilator action. To determine whether flosequinan also influences myocardial isovolumic relaxation, we measured left ventricular (LV) micromanometer pressure in 14 patients with heart failure (NYHA Class III-IV, EF<0.40) at baseline and during administration of flosequinan, 150 mg intravenously. Mean arterial pressure fell from 92±3 to 85±3 mmHg (mean±SEM, p<.05) on flosequinan, and heart rate increased from 93±4 to 99±3 beats/min (p<.05). Plasma norepinephrine and epinephrine levels were unchanged on flosequinan. LV end-diastolic pressure (EDP, mmHg), LV peak negative dP/dt (-dP/dt, mmHg/sec), and the time constant of isovolumic relaxation, determined by the logarithmic (T_L, msec) and derivative (T_D, msec) methods, were (*p<.05):

	LVEDP	-dP/dt	T_L	T_D
Baseline	31±2	-912±70	95±8	102±3
Flosequinan	25±3*	-1056±73*	70±6*	84±6*

Conclusion: Flosequinan improves LV isovolumic relaxation in patients with heart failure. Thus, like beta adrenergic agonists and phophodiesterase inhibitors, flosequinan has both positive inotropic and positive "lusitropic" effects.

CLINICAL OUTCOME AFTER DYNAMIC CARDIOMYOPLASTY FOR TREATMENT OF HEART FAILURE DUE TO IDIOPATHIC DILATED CARDIOMYOPATHY OR CHAGAS' S DISEASE

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The detailed clinical outcome after dynamic cardiomyoplasty (CMP) has yet to be described. We studied 15 PT, 43 ± 12 years old, 13 male, mean follow-up of 12 ± 8 months (M), ejection fraction (%) by echocardiographic study 30 ± 6 submitted to CMP for treatment of heart failure (HF) (III-10 PT, IV-5 PT, NYHA) due to idiopathic dilated cardiomyopathy (13 PT) or Chagas' s disease (2 PT). The medications used for treatment of HF were: diuretics (40-80 mg of furosemide, digoxin, potassium supplementation and angiotensin-converting enzyme inhibitor). We analysed the morbidity, the mortality, the functional class and working capacity in the immediate post-operative period and in the late follow-up. In the immediate post-operative period there were: necessity for transitory inotropic drugs e.v. infusion in all PT, sustained ventricular tachycardia (1 PT), acute atrial fibrillation (1 PT), incision infection (1 PT), pulmonary infection (1 PT), transitory brachial plexus lesion (1 PT), increment of bilirubin levels (2 PT) and one death due to muscle ischemia and heart failure. In the late follow-up: 1 PT developed arterial hypertension (unknown mechanism), one acute atrial fibrillation episode (1 PT), and one mitral valve surgery at 11 M after CMP for treatment of mitral regurgitation (1 PT). There were three deaths due to: pulmonary embolism and infection (1 PT), HF and acute renal failure (1 PT - waiting heart transplantation) and HF and infection (1 PT). The mortality at 1, 6 and 12 M were 7% and 20%, respectively. At this moment, there are 6 PT in II and 5 PT in I NYHA class functional, and 8 of them are working. In 6 of these PT, the diuretic dosages were reduced. Conclusion: In spite of some mortality and morbidity, the PT after CMP improved their functional class and most returned to their jobs. CMP can be an therapeutic option in heart failure treatment in order to improve the quality of life.