Results: Mean age at presentation was 51±26 and 37 patients were male. TR grade was ≥3 in 92%. Main etiology was traumatic (n=37, 62%), non-iatrogenic in 19 (mostly related to motor vehicle accident) and iatrogenic in 18 (mostly related to right ventricular biopsy). Clinical presentation was often severe: 57% were in NYHA class ≥II, 33% had a history of congestive heart failure (CHF) and 40% of atrial fibrillation (AF). Compared to expected survival of US matched population, an excess mortality was observed even after exclusion of 11 patients in whom associated diseases could have affected the survival (3.8% yearly, p=0.02). Patients asymptomatic at presentation also experienced a high incidence of TR-related complications (symptoms or CHF, AF, surgery or death, 75±15% at 10 years) predicted by severe enlargement of right-sided chambers (at 5 years 86±9 vs. 39±11%, p<0.01). Natural history started from date of occurrence of the flail also showed high complication rates (69±9% at 15 years). Etiology of TR did not influence the outcome. Tricuspid surgery was performed in 33 patients (55±7% at 5 years) and repair was performed in most patients (82%) with low mortality (3%). Despite frequently refractory AF, surgery allowed symptomatic improvement in 88%.
Conclusion: TR due to FL is a serious disease associated with excess mortality and high morbidity. Tricuspid valve repair can often be performed with low risk allowing symptomatic improvement. These results suggest that surgery should be considered early in the course of the disease before occurrence of intractable heart failure, particularly in patients with dilatation of right-sided chambers.

1030-138 Valvular Regurgitation Predicts Cardiovascular Mortality and Morbidity Among American Indians: The Strong Heart Study

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Background: Valvular regurgitation has been extensively examined in cross-sectional studies but there are few data on its association with cardiovascular (CV) morbidity and mortality in population-based samples. Methods: In 3,199 participants (60±8 years, 64% women, 45% hypertensive, 47% diabetic) without prevalent CV disease, valvular stenosis or prostheses who had echocardiograms in the 2nd Strong Heart Study examination, Cox proportional hazards models were used to estimate hazard ratios (HRs) associated with isolated mitral regurgitation (MR) or aortic regurgitation (AR) or combined MR and AR (MAR) for each outcome. Results: Among participants, 587 (18.3%) had MR of any degree, 198 (6.2%) had any degree of AR and 139 (4.3%) had MAR. During 9,926 person-years of follow-up, 9.0% of participants (N=289) had CV events, 12.4% (N=396) died (28.9% of CV causes and 5.8% died suddenly). In multivariable analyses controlling for age, gender, systolic and diastolic blood pressure, body mass index, glucose, insulin, creatinine, lipid profile, smoking, diabetes and hypertension, MAR but not isolated MR or AR was associated with increased risks of incident CV events (HR 2.0), CV death (HR 2.8), sudden death (HR 5.9) and all-cause death (HR 1.8)(all p<0.05, see Table for 95% CIs). Conclusions: In a population-based sample of middle-aged and elderly adults, coexistent MR and AR (MAR) is prevalent (4.3%) and is independently associated with increased risk of all-cause and CV death and events.

Association of Valvular Regurgitation With Morbidity and Mortality

Events	MR alone HR (95% CI)	AR alone HR (95% CI)	Combined MR and AR HR (95% CI)
CV Events	1.3 (0.9 to 1.8)	1.3 (0.8 to 2.1)	2.0 (1.2 to 3.2)
CV Death	1.4 (0.8 to 2.3)	1.4 (0.7 to 2.8)	2.8 (1.4 to 5.5)
Sudden Death	2.2 (0.7 to 7.1)	1.2 (0.2 to 6.5)	5.9 (1.4 to 25.6)
All-cause Death	1.2 (0.9 to 1.6)	1.1 (0.7 to 1.6)	1.8 (1.2 to 2.8)

1030-139 Prevalence and Correlates of Mitral Regurgitation in Hypertensive Patients: The HyperGen Study

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Background: The prevalence and correlates of mitral regurgitation (MR) for hypertensive patients in a population-based sample have not been well described.
Methods: MR was accessed by color Doppler of echocardiograms in 2172 hypertensive and 367 normotensive adults from the population-based Hypertension Genetic Epidemiology Network (HyperGEN) study.
Results: Mild MR was present in 15.3%, moderate in 2.5% and severe in 1.0% of hypertensive participants, versus 15.7%, 8.5% and 0.3% of normotensive adults (p=NS). Among hypertensive patients, MR prevalence was associated with older age. After adjusting for the effect of age, MR was associated with Caucasian ethnicity, lower body mass index, higher systolic blood pressure, coronary artery disease, larger left atrium size, mitral and aortic valve diseases (all p<0.05). In ANOVA and multivariate analyses adjusted by covariates such as age, gender, body mass index, blood pressure, aortic regurgitation, mitral valve and coronary artery disease, mild MR was associated with increased LV mass index (95±23 vs. 87±19 g/m^2) (p<0.01); moderate to severe MR were associated with increased LV diastolic diameter (5.5±0.9 vs. 5.1±0.5 cm) and LV mass index (105±26 vs. 87±19 g/m^2), lower LV systolic function indices such as ejection fraction (54±15 % vs. 62±7 %) and stress-corrected midwall shortening (99±22 % vs. 105±12 %) (all p<0.05). MR prevalence was not associated with gender, controlled or uncontrolled hypertension, antihypertensive medication, diabetes, serum creatinine, albumin, cholesterol and triglyceride levels (all p=NS).
Conclusions: This study showed that MR prevalence was nearly 19% among hypertensive patients. It was associated with older age.After adjusting the effect from age, it was also associated with Caucasian ethnicity, larger left atrial size, cardiovascular diseases, systolic blood pressure difference and lower body mass index. The presence and severity of MR were positively related to increased LV hypertrophy, greater LV dilatation and dysfunction. MR prevalence was unrelated to gender difference, diabetes, isolated hypertension and antihypertensive medication.

1030-140 Patent Foramen Ovale: A New Factor Associated With Progression of Carcinoid Heart Disease

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Background: Several studies have demonstrated that serotonin and chemotherapy were associated with the progression of carcinoid heart disease (CHD). The aim of this prospective study was to assess the role of patent foramen ovale in the progression of CHD. Method: In 30 consecutive patients (mean age 58 years, range 40-74, 50% women) with carcinoid syndrome, we performed serial (77) echocardiographic studies. The echocardiographic following parameters were systematically assessed: 1) right-CHD, 2) left-CHD, 3) right to left shunting through a patent foramen ovale (PFO) using contrast echocardiography at rest and after cough test or Valsalva maneuver.
Results: Mean follow-up was 24 months (range: 12-48 months). At baseline, echocardiography revealed 10 pts (33%) with right-CHD and 4 pts (13%) with left-CHD (Table). At the end of follow-up, the incidence of right-CHD, left-CHD was respectively 53% (16 pts) and 33% (10 pts). The baseline and follow-up frequencies of PFO were respectively 27% (8 pts) and 43% (13 pts). The presence of PFO was strongly associated with the progression of both right- and left-CHD (p=0.001). The metabolite of serotonin (urinary 5-HIAA, p=0.002) and plasmatic chromogranin A (p=0.002) levels were also predictive factors of progression but not chemotherapy (p=0.7).Conclusion: Our data suggest that PFO is a new important factor of carcinoid heart disease progression and should be systematically researched by serial contrast echocardiographic studies.

POSTER SESSION

1048 Recent Advances in Surgical Therapy for Patients With Valvular Heart Disease

Sunday, March 07, 2004, 3:00 p.m.-5:00 p.m.
Morial Convention Center, Hall G
Presentation Hour: 3:00 p.m.-4:00 p.m.

1048-136 Long-Term Results With the St. Jude Medical Aortic Valve: A 25-Year Experience

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BACKGROUND: From 10/77 – 10/02, 2983 patients (age range 17-94 years, average age 65 ± 13) underwent aortic valve replacement (AVR) with the St. Jude Medical (SJM) heart valve. Concomitant coronary bypass was performed in 1239 (42%) patients.
METHODS: Cardiac Surgical Associates has maintained an independent database of our patients having valve replacement with the SJM prosthesis since the world's first implant in 10/77. Patients were contacted by questionnaire and/or phone from 11/02 through 6/03. Hospital course and valve-related events were verified by patient chart review and/or physician contact.
RESULTS: Operative mortality was 4% (AVR 3%; AVR/CAB 6% of which 15 (12% were valve related. Total follow-up (94%) was 21,742 patient years (range 1 month to 24.8 years, average 7 ± 5 years). At 25 years, overall patient freedom from late mortality was 61% and from late valve-related mortality 93%. Freedom from thromboembolic events was 86%; from bleeding events 81%; from endocarditis: 98%, and from valve thrombosis 99%; and from reoperation 99%. Reoperation was carried out in 51 patients (2%) for suture closure of paravalvular leak (n=4), valve replacement (34) and debridement of valve (13). There were no structural failures.
CONCLUSION: The SJM valve has proven to be an effective and durable heart valve prosthesis with a low event rate over the long term.

1048-137 Impact of Valve Prosthesis-Patient Mismatch on Pulmonary Arterial Pressure After Mitral Valve Replacement

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Background: Pulmonary arterial (PA) hypertension is a serious complication of mitral valve disease and it is a major risk factor for poor outcome following mitral valve replacement (MVR). We hypothesised that valve prosthesis-patient mismatch (PPM) might be a determinant of PA hypertension after MVR. ***Methods:*** Systolic PA pressure was measured by Doppler-echocardiography in 56 patients with normally functioning mitral prosthetic valves at 24±14 months after MVR. Mitral valve effective orifice area (MVA) was determined by the continuity equation and indexed for body surface area. ***Results:*** Seventy one (71) percent of patients had PPM defined as an indexed MVA ≤ 1.2 cm^2/m^2. Thirty patients (54%) had a systolic PA pressure > 40 mmHg and 13 patients (24 %) had a systolic PA pressure > 50 mmHg. There was a good correlation (r=0.64) between systolic PA pressure and indexed MVA (see figure). The average systolic PA pressure and prevalence of PA hypertension (PA pressure > 40 mmHg) were 34±8 mmHg and 19% in