LONG-TERM (30 YEAR) SURVIVAL OF PATIENTS UNDERGOING COMPLETE REPAIR OF TETRALOGY OF FALLOT

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We report the long-term follow-up of 205 patients (pts) undergoing complete repair of Tetralogy of Fallot, under cardiopulmonary bypass between the years 1956-1960. Perioperative mortality was 19.4%. The median follow-up was 28.9 years, range <1-33 years. The mean age at operation was 10.5 years, range <1-47 years.

Long-term survival of patients surviving surgery was compared to an age and sex-matched control population.

	5 yrs	10 yrs	25 yrs	30 yrs
Controls	100%	99%	97%	95%
Patients	94%	92%	87%	86%

Pre-operative variables predictive of poorer long-term survival, by univariate analysis included: older age at surgery ($p = 0.009$) and cardiopulmonary bypass time ($p = 0.16$). Multivariate analysis demonstrated a poorer long-term survival in those patients who were older at the time of surgery ($p = 0.0035$), or who had a prior history of heart failure ($p = 0.017$).

In summary, long-term survival in patients who survived surgery for complete repair of Tetralogy of Fallot, under cardiopulmonary bypass, was excellent and at 30 years was 90% of that expected in an age and sex-matched control population.

COMPARISON OF CORONARY ANGIOPLASTY: MULTIVESSEL VERSUS SINGLE VESSEL ANGIOPLASTY - LONG-TERM DATA.

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Long-term follow-up of 595 multivessel (MV) PTCA patients (pts) was compared to 595 age and sex matched control pts with one vessel (1-V) PTCA. Average follow-up was longer for the 1-V disease pts (41 vs 33 months). Event free actuarial survival (freedom from myocardial infarction, coronary bypass surgery (CABG), repeat PTCA, and death) was significantly better for pts undergoing 1-V PTCA ($P < 0.008$); at 4 yrs 63% of 1-V pts were event free compared to 57% of MV PTCA pts. This difference is due entirely to an increase in repeat PTCA during the first year after initial PTCA. Using actuarial analysis, there were no differences between groups in late MI, CABG or death. Survival at 4 yrs was 93% for MV and 94% for 1-V disease. Repeat PTCA rate was 18% for 1-V, 28% for M-V during the follow-up.

In MV pts, survival at 4 yrs was no worse in 3 vessel disease and left main pts (91%) compared to 2 vessel pts (95%) ($p = 0.14$). Survival was worse with impaired left ventricular function: normal 94%, mild 94%, moderate and severe 87% ($p = 0.009$). Survival at 4 yrs was no worse in pts with prior CABG, 92% vs 94% ($p = 0.24$).

Patients can undergo MV PTCA with 4 yr results similar to 1-V PTCA except that more repeat angioplasties are required during the first year of follow-up. Survival is adversely affected by impairment of left ventricular function.

Wednesday, March 21, 1990
4:00PM–5:00PM, Ballroom
Coronary Angioplasty II

PROCEDURAL RISKS AND LONG-TERM EFFECTIVENESS OF MULTIVESSEL CORONARY ANGIOPLASTY: 1980-1989

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Multivessel coronary angioplasty (MV PTCA) remains controversial due to uncertainties about its long-term effectiveness. Between June 1980 and January 1989, 3,186 pts underwent MV PTCA within 2 (2,399 pts) or 3 (787 pts) major coronary arteries. A mean of 3.6 lesions (range 2-14) were dilated per pt with a 96% success rate. Acute complications, seen in 94 pts, included Q-wave infarction in 47 (1.5%), urgent bypass surgery in 33 (1.0%) and death in 31 (1.0%). Multivariate correlates of in-hospital mortality included: reduced LV function, age ≥ 70 yrs and female gender. Complete long-term follow-up (mean=54 mos) was available for the first 700 successful MV PTCA pts. Actuarial 1 and 4-yr survival was 98 and 91%. Multivariate predictors of poor long-term survival included: Age ≥ 70 yrs, reduced LV function, and prior bypass surgery (CABG). Repeat revascularization was required in 322 pts (46%). Repeat PTCA was performed for restenosis in 189 pts (27%) and for new disease in 76 pts (11%). CABG was performed in 110 pts (16%). Repeat revascularization rates at 4 yrs for completely and incompletely revascularized pts were 24 and 33% ($p=.03$). At follow-up 59% of pts were angina-free.

Conclusions: MV PTCA was safe and resulted in excellent long-term survival. Repeat PTCA was often required, especially in pts with incomplete revascularization, but 86% of pts avoided CABG.

DOES SERUM LP(a) PREDICT RESTENOSIS AFTER PTCA?

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Serum was prospectively collected for analysis of lipids, including Lp(a) immediately prior to coronary angiography at 4±2 months following PTCA in 46 patients (pts). Pts were excluded if they had taken lipid lowering medications during the post-PTCA period. Pts were 57±10 years old, 17% had diabetes, 50% had a history of hypertension, and 15% had a smoking history. Coronary stenoses were measured with digital electronic calipers and restenosis was defined as 50% luminal diameter reduction in a previously dilated site. Thirteen pts (28%) had no restenosis (NR) while 33 pts (72%) had at least one restenotic site (RS). Values are mean ±1 SD.

	NR Pts	RS Pts	p
Total Cholesterol	223±43	196±45	NS
HDL	37±6	41±10	NS
LDL	146±40	126±38	NS
VLDL	40±15	29±19	NS
Apo A	91±8	94±16	NS
Apo B	131±27	109±26	0.02
HDL/Cholesterol	0.17±0.04	0.21±0.05	0.02
Lp(a) mg/dl	77±84	157±144	0.05

Using logistic regression, independent predictors of restenosis were serum Lp(a) and the HDL to cholesterol ratio. Using Spearman rank correlation analysis, the serum Lp(a) was positively correlated with the total number of PTCAs performed ($p<0.05$). Conclusion: This recently recognized marker of coronary artery stenosis may also be a marker of recurrent stenosis following PTCA.