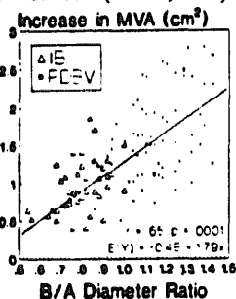


9:15

THE EFFECT OF BALLOON DIAMETER TO MITRAL VALVE ANNULUS RATIO ON VALVOTOMY: INQUE-SINGLE BALLOON VERSUS DOUBLE BALLOON TECHNIQUES

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The relationship of balloon diameter to mitral valve annulus ratio (B/A ratio) and increase in mitral valve area (MVA) by Gorlin formula was examined in pts who underwent percutaneous mitral valvotomy (PMV) and compared between Inoue-single balloon (IB, n=85) and double balloon (PDBV, n=85) techniques in a person-to-person matched group. Matching was according to age, sex, calcification and MVA before PMV. Mean B/A ratio was 45% larger and mean increase in MVA was 65% greater in PDBV group than in IB (1.16 ± 0.13 vs. 0.80 ± 0.10, p<0.0001 and 1.53 ± 0.03 cm² vs. 0.93 ± 0.03 cm², p<0.0001 respectively). Increase in MVA was significantly correlated with B/A ratio.



The figure shows clearly the trend is: The larger the B/A ratio, the greater the increase in MVA. The double balloon technique allows use of a larger B/A ratio, and thus achieves a larger MVA.

9:30

TWO-YEAR FOLLOW-UP OF PERCUTANEOUS MITRAL VALVOTOMY (PMV): CARDIAC CATHETERIZATION; ECHOCARDIOGRAPHY; AND CLINICAL STATUS.

Peter C. Block, E. Murat Tuzcu, Igor F. Palacios, Massachusetts General Hospital, Boston, Massachusetts, USA

A cohort of thirty-four consecutive patients returned 2 yrs after PMV for follow-up cardiac catheterization (F/U cath) and echocardiography (2-D Echo) to measure mitral valve area (MVA). Clinical evaluation (NYHA) was done at the same time. The data were compared to catheterization, 2-D Echo, and NYHA before and immediately after PMV. Results for the entire group are summarized below.

	Pre-PMV	Post-PMV	2-Yr Follow-up
Cath MVA	1.0 ± 0.1	2.3 ± 0.1	1.6 ± 0.1*
2-D Echo MVA	1.1 ± 0.1	1.7 ± 0.1	1.6 ± 0.1
NYHA Class	3.0 ± 0.1	1.4 ± 0.1	1.8 ± 0.1**

* p=0.0005; ** p=0.005 (post-PMV vs 2-Yr Follow-up)

Note that there was no significant difference between follow-up mitral valve area calculated at F/U cath vs 2-D echo.

Twenty-three patients had echocardiographic "score" ≤ 8; 11 had echocardiographic score > 8. There was no evidence of restenosis in either group by 2-D Echo though overall the > 8 group had a less satisfactory PMV result. The higher NYHA Class at F/U was solely due to the group with "score" > 8. Patients with "score" ≤ 8 had no change in NYHA (1.7 ± 1 vs 1.7 ± 1). We conclude: (1) There is no evidence of restenosis by 2-D Echo 2 yrs after PMV; (2) F/U cath shows apparent restenosis, but MVA immediately post-PMV is probably overestimated by cath due to falsely high cardiac output measurement from left-to-right shunting; (3) F/U cath and 2-D Echo show the same MVA, indicating closure of the atrial septal defect; (4) Echocardiography may be the best method of evaluation of MVA early post-PMV, and correlates with MVA calculated by cath at F/U.

9:45

PERCUTANEOUS MITRAL PALLOON VALVOTOMY USING INQUE AND DOUBLE BALLOON TECHNIQUE (RANDOMIZED TRIAL): MECHANISM OF DILATION, IMMEDIATE RESULTS AND FOLLOW-UP

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To assess the efficacy of 2 different mitral balloon valvotomy (PMV) technique, PMV was performed using Inoue balloon in 31 and double balloons in 32 pts with mitral stenosis (M:24, F:39, mean age 42 ± 12 yrs). Follow-up study was obtained in 29 pts (mean 5.3 months). Complications included deflation failure of Inoue balloon in 1, severe mitral regurgitation (MR) requiring surgery in 1, and embolic episode in 1. (* P<0.05, ** P<0.002)

	Double (n=32)	Inoue (n=31)
Total echo-score	8.3 ± 1.3	8.2 ± 1.2
Success rate (%)	32/33 (97%)	31/34 (91%)
Total procedure time (min)	84 ± 24	56 ± 20 **
Total fluoroscopic time	25 ± 11	16 ± 6 **
Effective balloon area/BSA	3.9 ± 0.8	1.1 ± 0.4
Orifice diameter increment (cm)		
long (% changes)	1.1 ± 0.6 (62%)	0.8 ± 0.5 (51%)
short (% changes)	0.3 ± 0.3 (48%)	0.4 ± 0.3 (63%)
EF slope after PMV (mm/s)	48 ± 16	39 ± 15 *
MVA (cm ²) by 2-D, pre	0.8 ± 0.2	0.9 ± 0.2
post	1.9 ± 0.2	1.9 ± 0.3
follow-up	1.8 ± 0.3	1.7 ± 0.4
Increment of MR	16 (50%)	14 (45%)
Development of ASD (QP/QS > 1.2)	7 (21%)	4 (13%)

Conclusion: 1) PMV using Inoue or double balloon was equally effective in selected pts. 2) Total procedure and fluoroscopic time of Inoue balloon technique was significantly shorter than those of double balloons 3) Double balloon technique seemed to have more tendency of longitudinal splitting of the commissure. 4) Increased MVA was maintained at 4-12 months follow-up in both groups.

Thursday, March 7, 1991

**8:30AM-10:00AM, Room 257, West Concourse
Immune Monitoring and Diagnosis of Rejection**

8:30

DOES PANEL REACTIVE ANTIBODY CROSSREACTIVITY AND LYMPHOCYTE CROSSMATCH STATUS PREDICT POSTOPERATIVE ORTHOTOPIC CARDIAC TRANSPLANTATION COURSE?

Evan Loh, James D. Bergin, Pia J. Young, Carol M. Flavel, John A. Macoviak, Gilbert H. Mudge, Brigham & Women's Hospital, Boston, MA

To assess whether high panel reactive antibody (PRA) sensitivity and lymphocyte crossmatch status (LCR) predict survival following orthotopic cardiac transplantation (OHT), we retrospectively analyzed all patients undergoing OHT at BWH since 1984 (n=120). All patients underwent retrospective LCR, and patients with peak PRA > 10% underwent prospective LCR. When peak PRA and PRA at OHT were analyzed in three groups (PRA < 10%, n=82; 10% to 25%, n=28; and > 25%, n=10), patients with a PRA at OHT of > 25%, despite a (-) LCR had a significantly higher mortality due to rejection (p<0.1). Peak PRA alone or PRA at OHT of < 25% with a (-) LCR did not predict acute rejection episodes, chronic rejection, CAD or death. Five of ten patients with peak PRA > 25% had PRA levels of < 25% at OHT. Six patients had a (+) retrospective LCR (peak PRA < 10%), none died and only 1 patient developed CAD (p=NS, vs (-) LCR group). Comparing patients who died early (< 60d, n=10) vs late (n=20), there was no difference between the peak or OHT PRA sensitization level or the frequency of death due to infection or rejection. Multivariate analysis including variables of age, gender, HLA and DR match, rejection history and PRA revealed that only CAD and chronic rejection independently predicted death (p<0.02).

In summary, patients with PRA > 25% at OHT despite a (-) LCR have a significantly higher mortality compared to patients with peak or OHT PRA < 25% and patients with a (+) retrospective LCR. Further, the level of PRA sensitization does not distinguish between early and late death following OHT.