

Combined aortic and mitral regurgitation

- no clear guidance on combined valvular lesions

exists (2007 ESC guidelines: operate both valves is

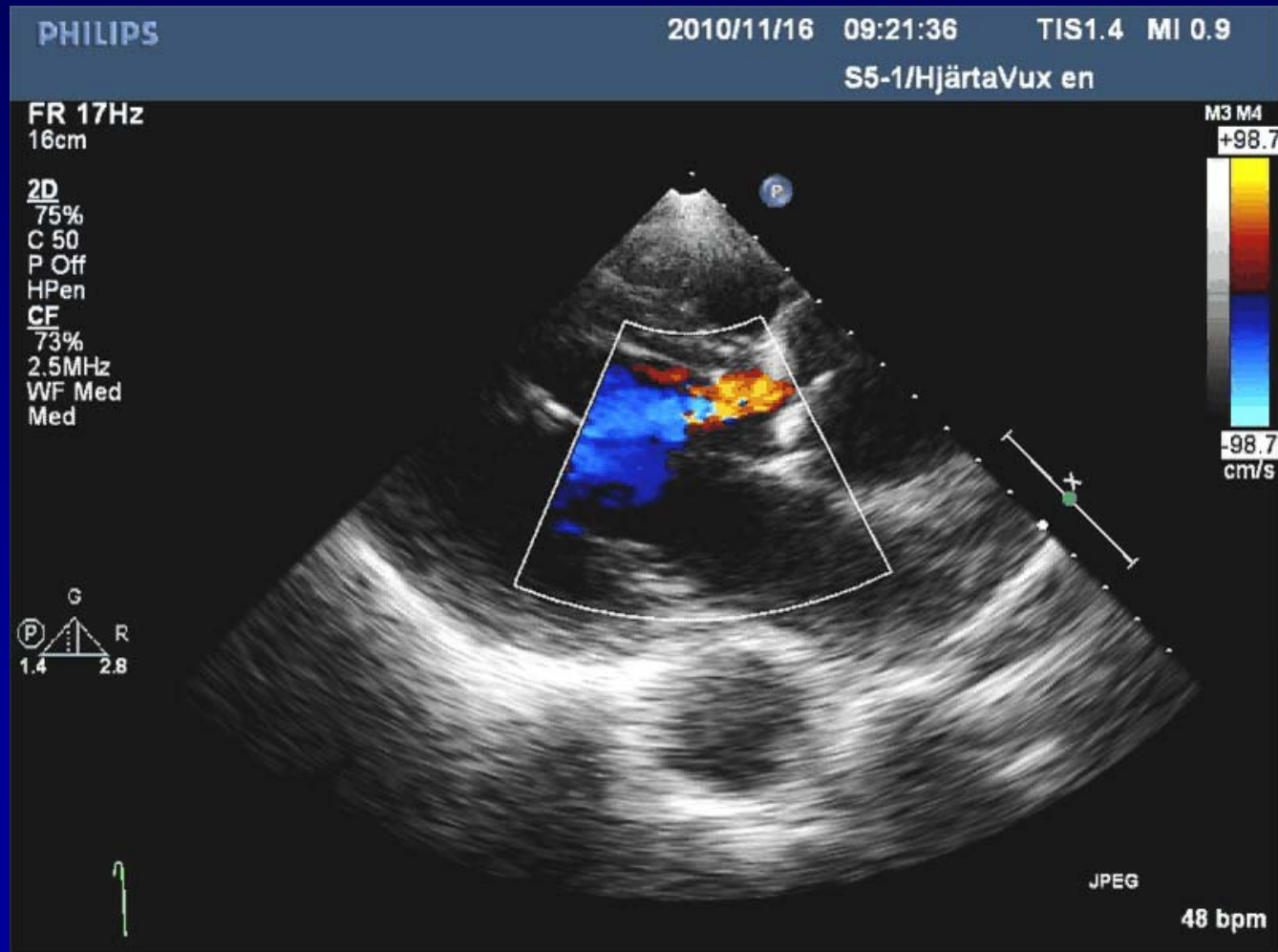
both are severely regurgitant; operate concomitant

moderate MR if it is organic and repair likely)

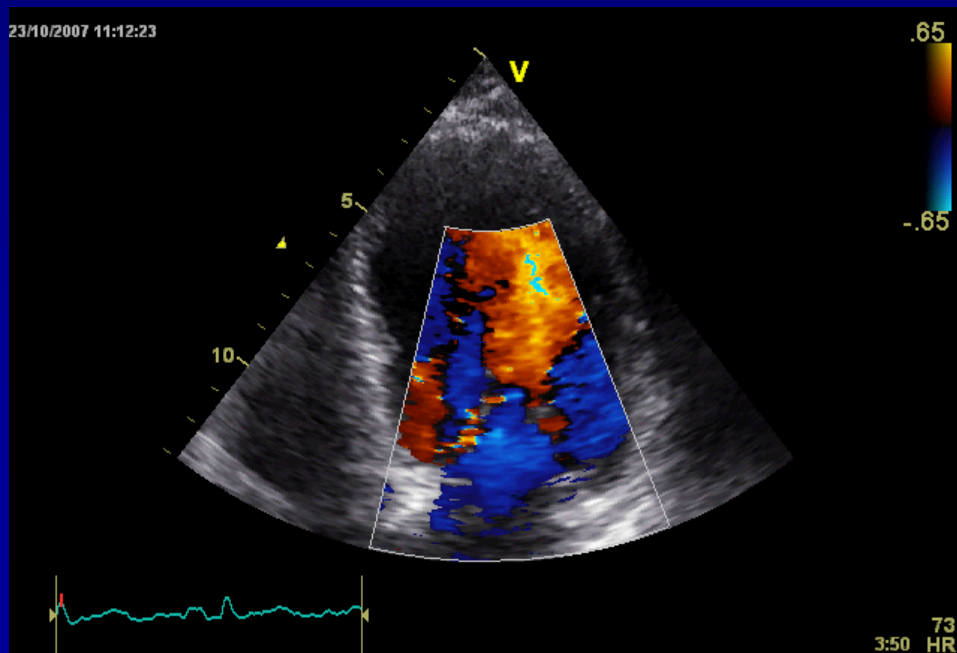
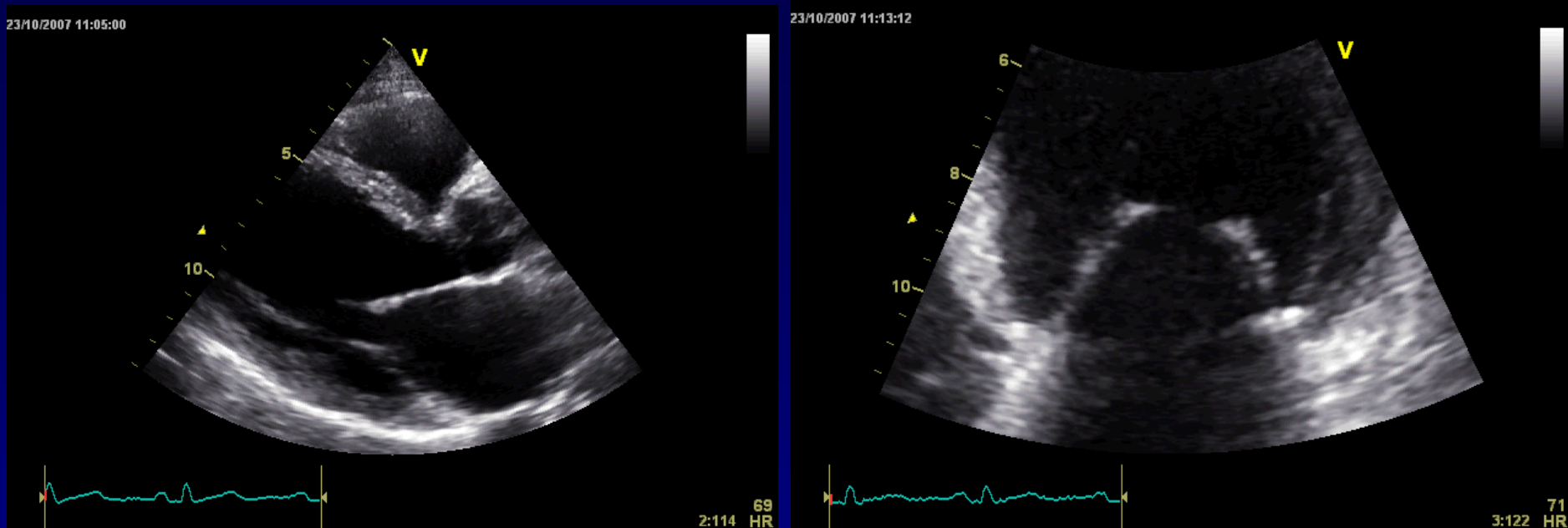
- volume (AR+MR) AND pressure (AR) loading

- no “common currency” of severity

- functional mitral regurgitation is common in severe AR
- combined “organic” AR and MR: endocarditis, rheumatic disease, carcinoid, appetite-suppressant drugs..

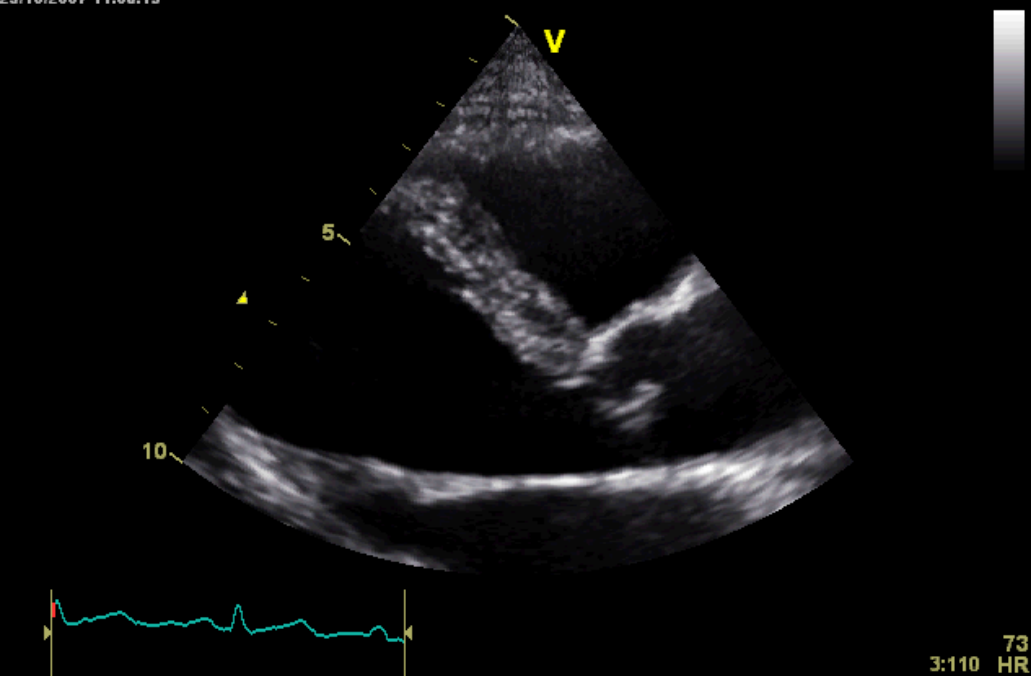


Organic AR and organic MR: appetite-suppressant drugs



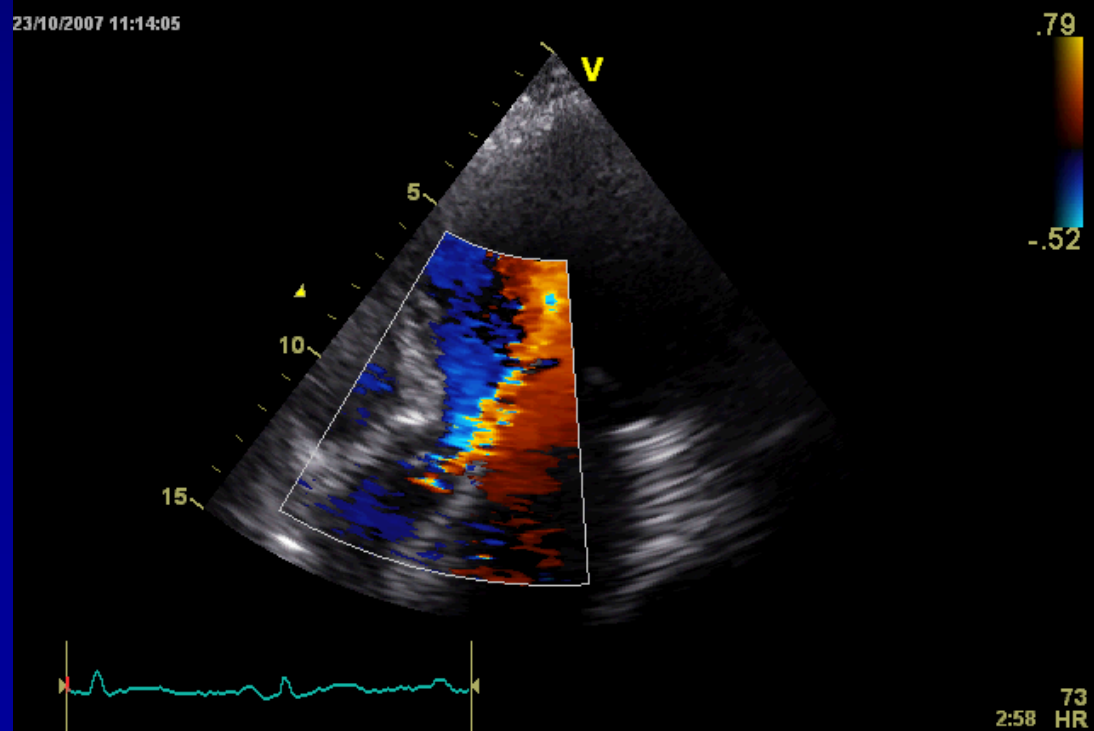
Boudes EJE 2011;12:688

23/10/2007 11:08:13



Boudes EJE 2011;12:688

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Double valve surgery

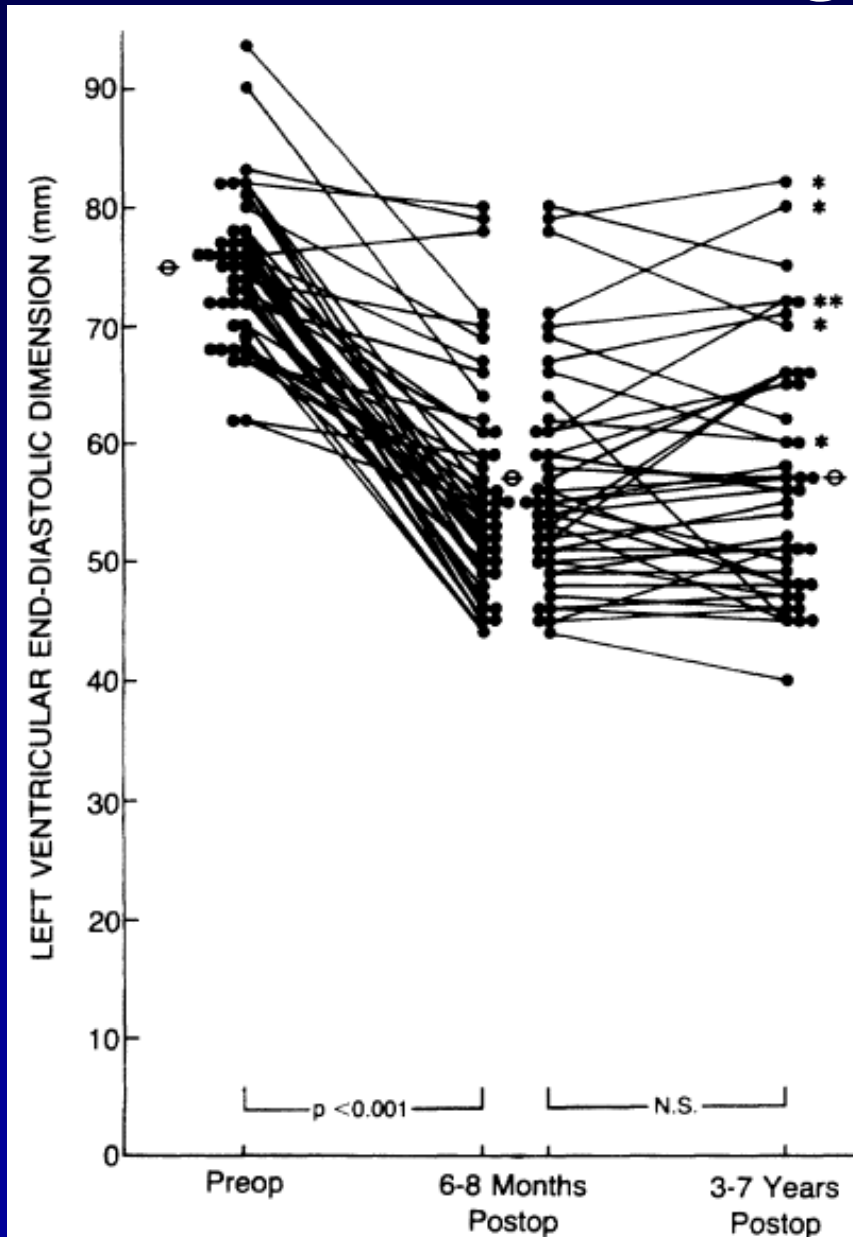
Table V5 Multiple valve procedures.

Combination	n	Deaths	%
Aortic + mitral	1 635	127	7.8

Germany 2009; Gummert J Thor CV Surg 2010;58:379

Does surgery for aortic regurgitation obviate the need to treat functional mitral regurgitation ?

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Bonow
Circulation 1988;78:1108

Does surgery for aortic regurgitation obviate the need to treat functional mitral regurgitation ?

TABLE 1. Preoperative and Postoperative Hemodynamic and Angiographic Data

		EDVI (ml/m ²)	EF (%)	S _{peak} (dynes × 10 ³ /cm ²)
Preoperative (n = 17)		226 ± 49	60 ± 9	538 ± 129
Intermediate postoperative (n = 15)	18 months postop	128 ± 40	65 ± 10	430 ± 117
Late postoperative (n = 6)	5-6 years postop	109 ± 20	64 ± 9	465 ± 81
Controls		82 ± 16	68 ± 7	372 ± 53

Krayenbuehl Circ 89;70:744

	Control Subjects	Preoperative	Early After AVR	Late After AVR
LVEDP, mm Hg	10±4	17±4*	13±6	15±4*
EDVI, mL/m ²	84±17	221±46‡	135±41*¶	113±52¶
ESVI, mL/m ²	29±7	94±44†	60±35*§	48±37§
Ejection fraction, %	65±4	55±11*	56±12	59±15

Villari, Hess Circulation 2009;120:2386

n=11 pts studied before, 21 mo and 89 mo after AVR

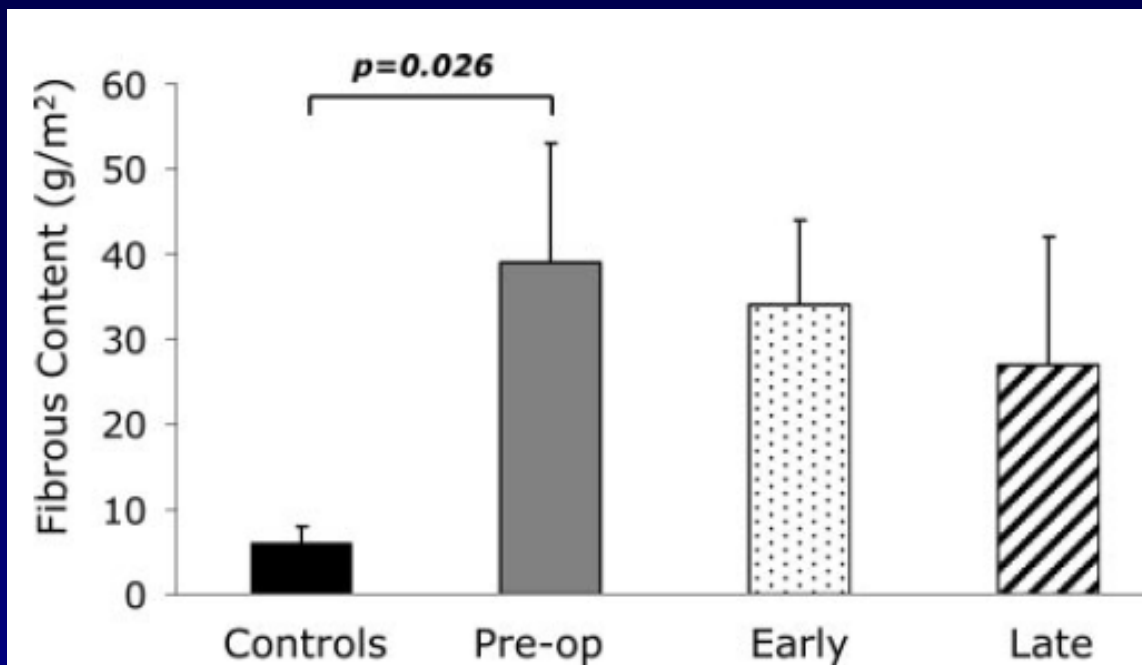
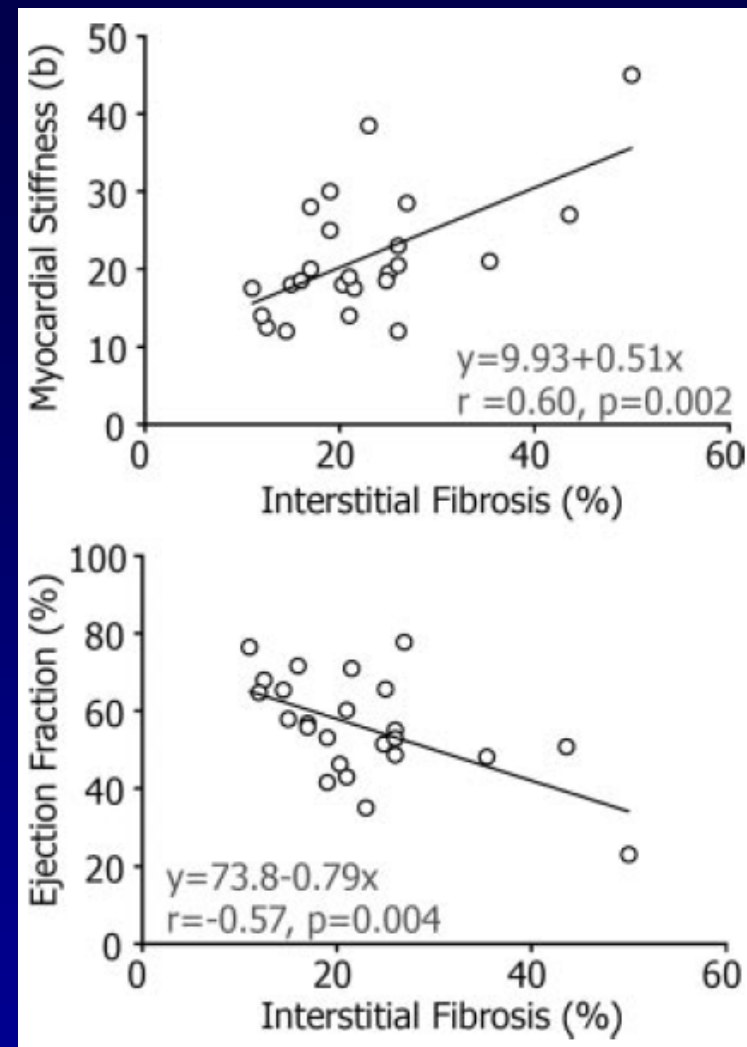
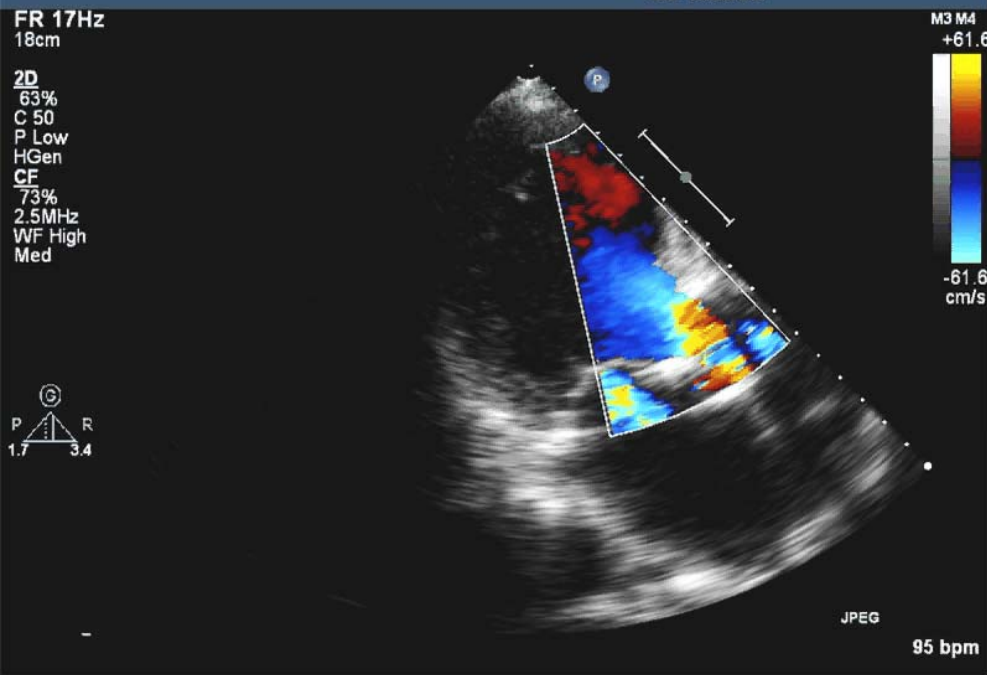


Figure 5. Fibrous content in control subjects and patients with AR before and early and late after AVR.



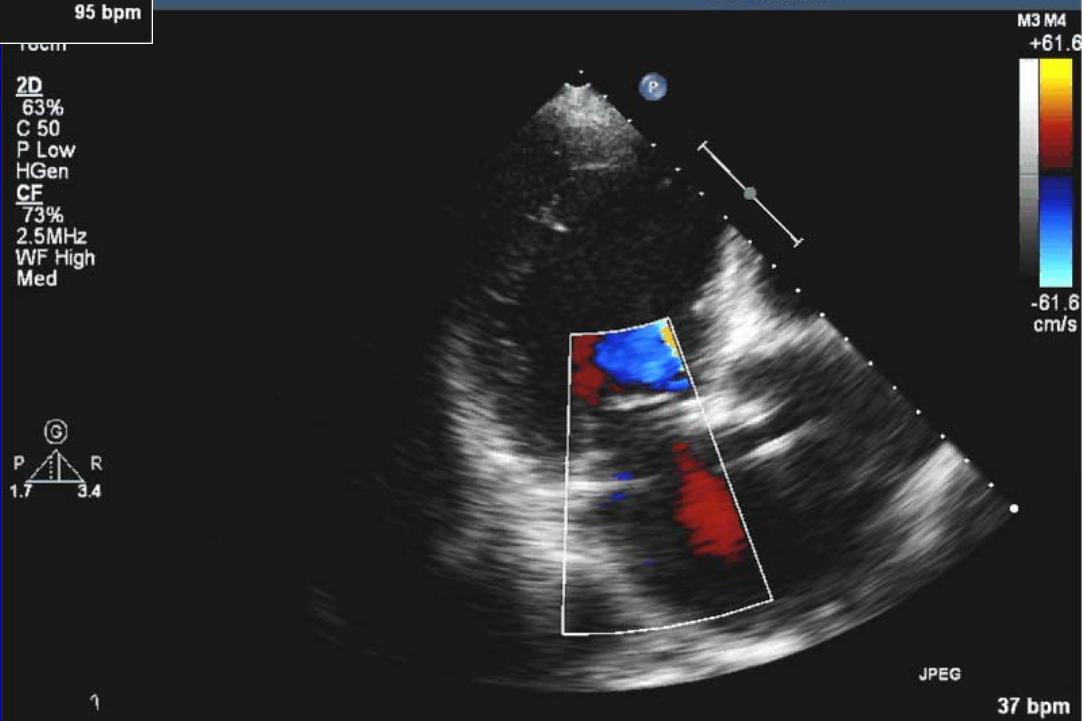
Villari, Hess Circulation 2009;120:2386

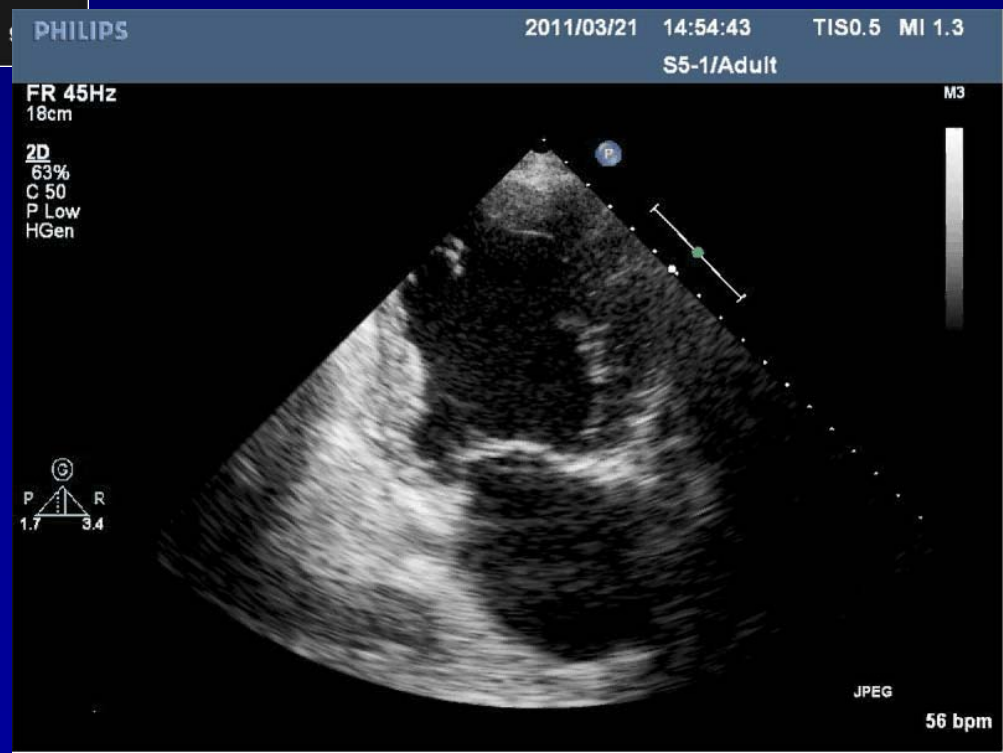
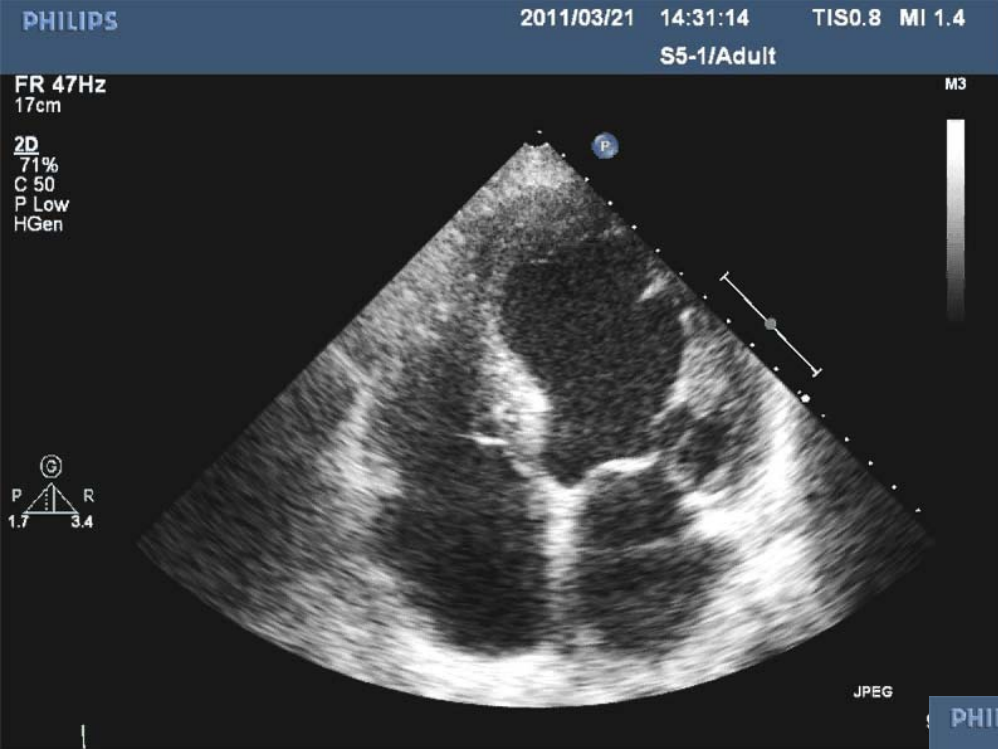
n=11 pts studied before, 21 mo and 89 mo after AVR



86 years old man
primary AR, secondary MR

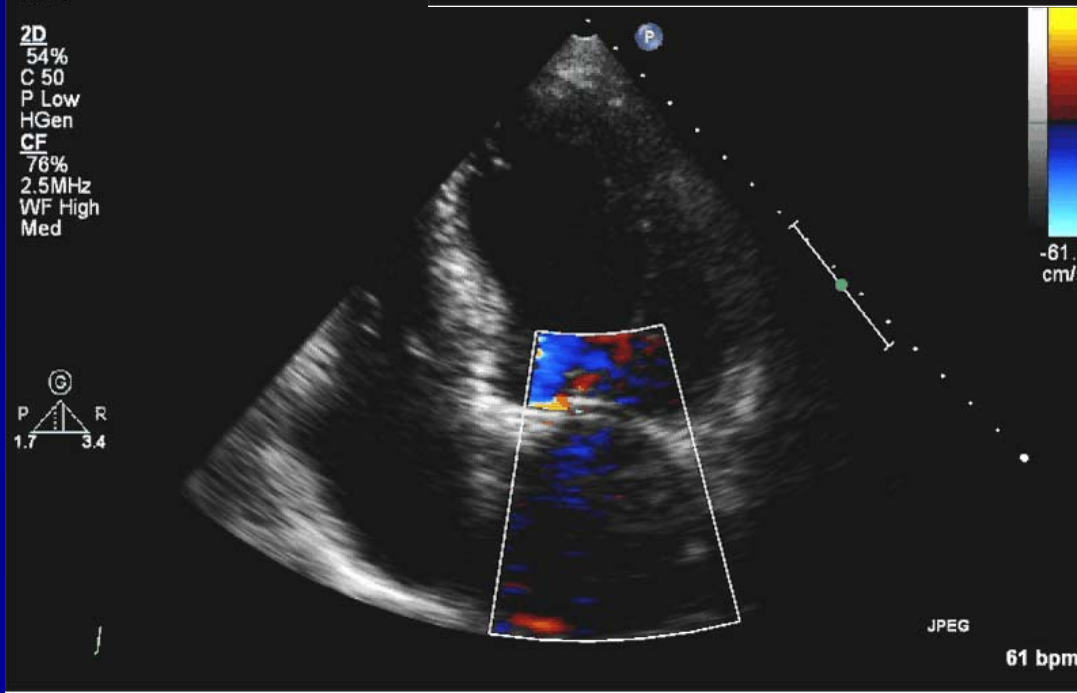
2011/03/21 14:56:15 TIS2.3 MI 1.2
S5-1/Adult





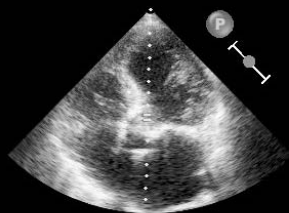


post TAVI



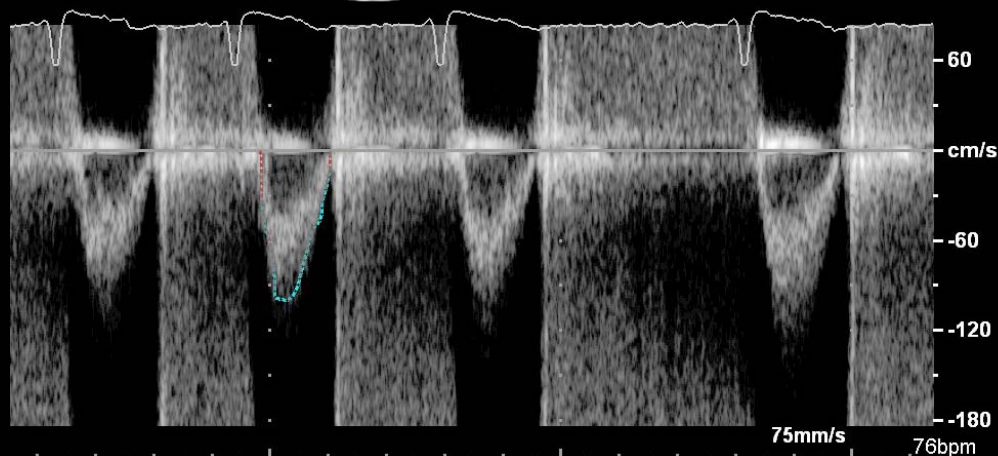
RR 47Hz
17cm

2D
71%
C 50
P Low
HGen



PW
35%
1.6MHz
WF 75Hz
SV4.0mm
9.0cm

M3



pre TAVI

6 weeks post TAVI

LVOT VTI pre and post: 17 cm

PW
10%
1.6MHz
WF 75Hz
SV4.0mm
9.5cm

M3

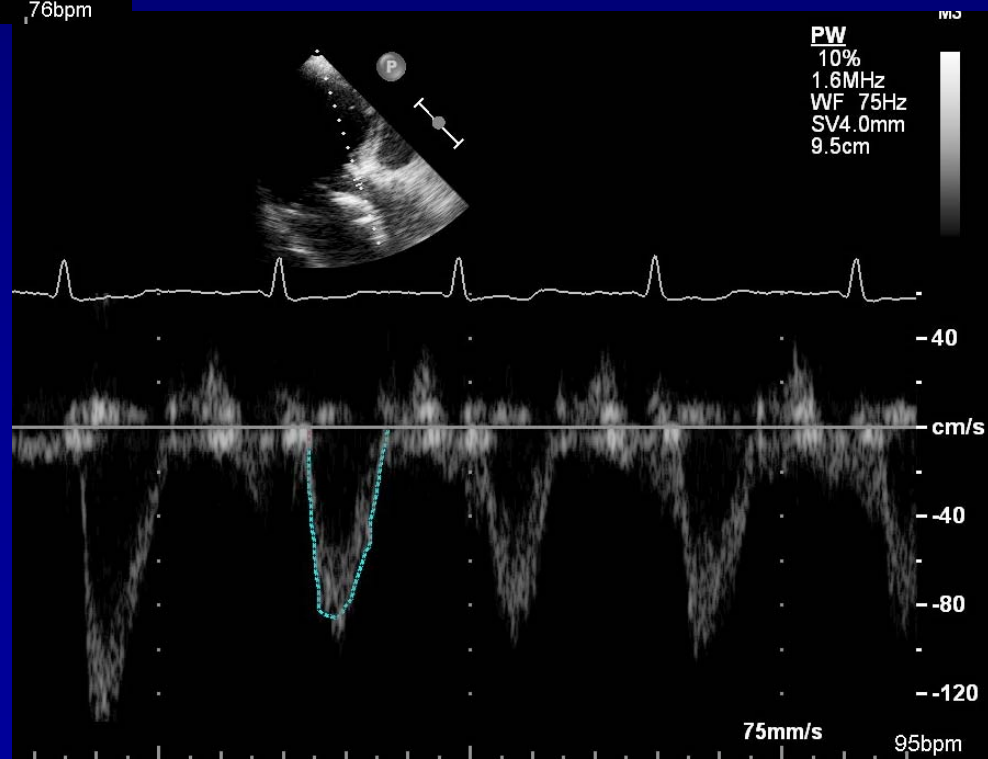
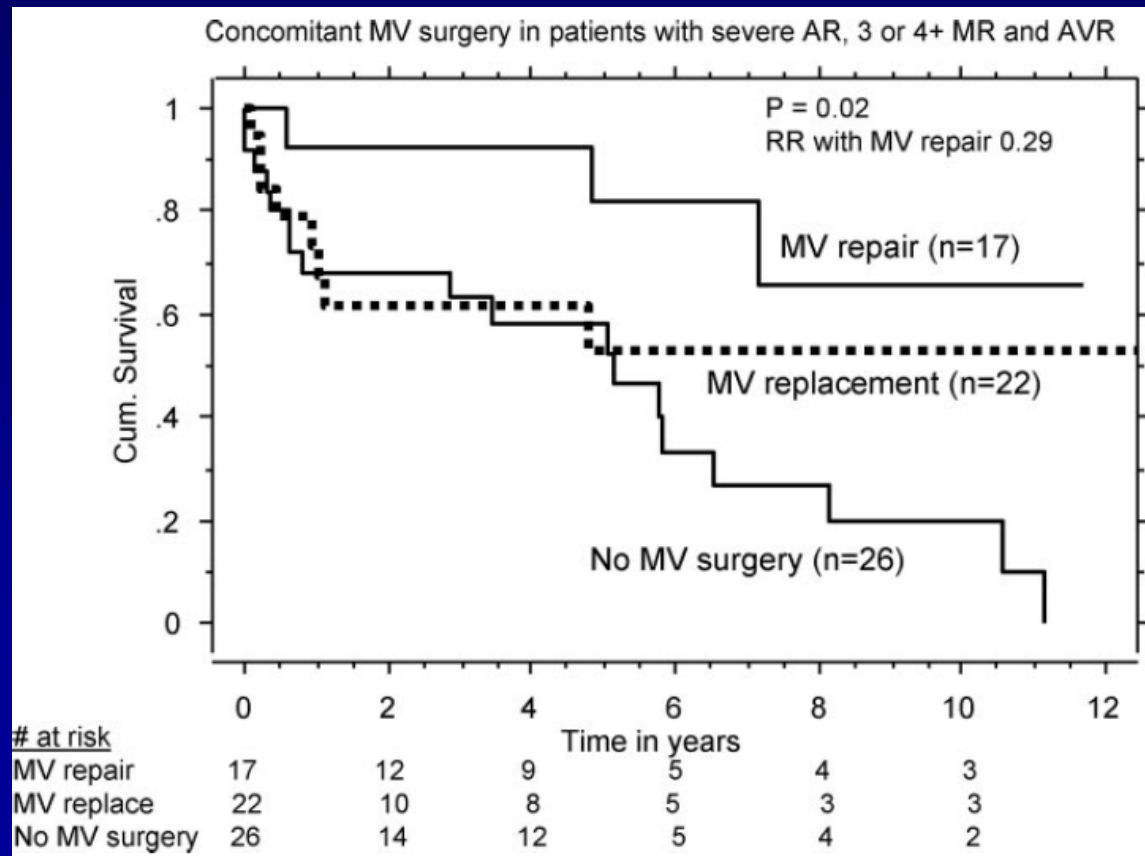
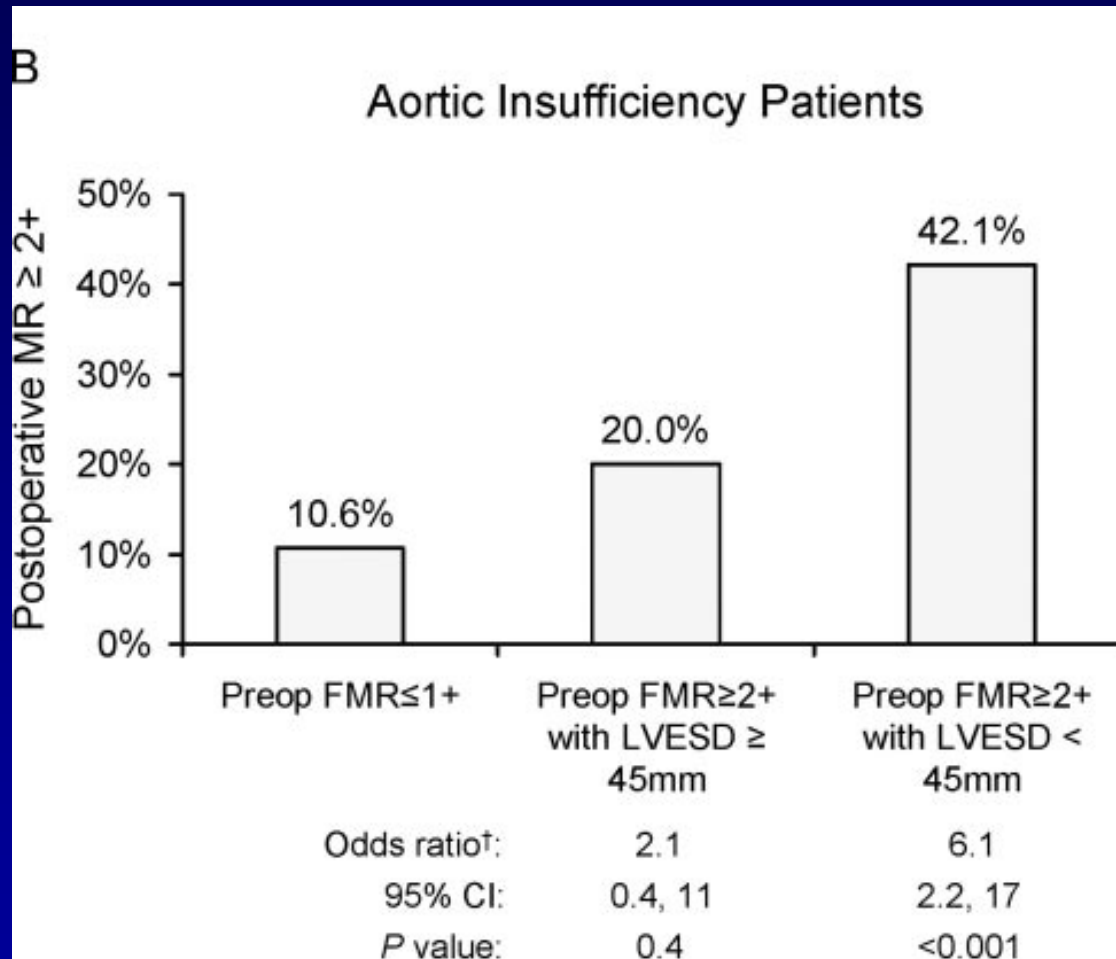


Table 1. Characteristics of Patients With and Without 3 or 4+ MR

Characteristic	All (n=756)	3 or 4+ MR (n=191)	≤2+ MR (n=565)	P Value
Age, y	61±18	68±15	59±18	<0.0001
Female	41%	51%	37%	0.0007
EF, %	54±18	46±12	57±17	<0.0001
LVEDD, cm	5.7±1.1	5.9±1.1	5.7±1.0	0.02
LVESD, cm	4.0±1.2	4.3±1.2	3.9±1.3	<0.0001



Is LV diameter a useful guide whether to treat MR in severe AR ?



Reuel Circulation 06;114, suppl I, I:541

Summary

- **combined AR and MR: typically organic AR with functional MR**
- **structural LV changes in AR persist after AVR, and so does MR**
- **substantial concomitant MR in primary AR seems to be a risk factor for death and heart failure**
- **in severe AR+MR, symptoms and LV should be evaluated according to recommendations for severe MR**
- **in severe AR and moderate functional MR, AV surgery with repair of MR seems advantageous (although unproven rigorously)**