



Multi-Imaging Approach in the Decision Making and The Tailored Treatment of Ischaemic Mitral Regurgitation in an Elderly High Risk Patient

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Introduction

- ❖ **Cardiovascular disease is the major cause of death in subjects >75 years old, a healthcare problem that will increase. In the United States, the predicted population >75 years of age will exceed 50 million by the year 2038**
- ❖ **Epidemiological studies have shown that the prevalence of mitral regurgitation (MR) also increases progressively with age; thus, MR is a common and growing problem in the elderly**



Introduction

- ❖ Operative mortality is increased in the elderly by major comorbidities that include coronary artery disease, cerebrovascular disease, heart failure, atrial fibrillation, and renal insufficiency.
- ❖ A delicate balance must be considered to optimally manage elderly patients with severe MR that not only favors symptomatic benefit over perioperative risk , but also improves long-term outcome with regard to morbidity and mortality



Aim

We propose a multi-integrated approach with new imaging technologies, for the optimal decision making of ischaemic mitral regurgitation (IMR) in the treatment of elderly high risk patient. The proper treatment of IMR require an understanding of its mechanisms and evaluation of reverse remodelling . This diagnostic strategy could help to choose the best treatment for patients.

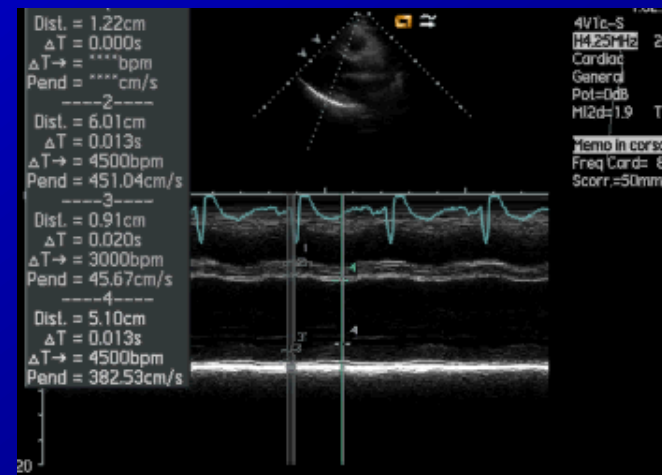
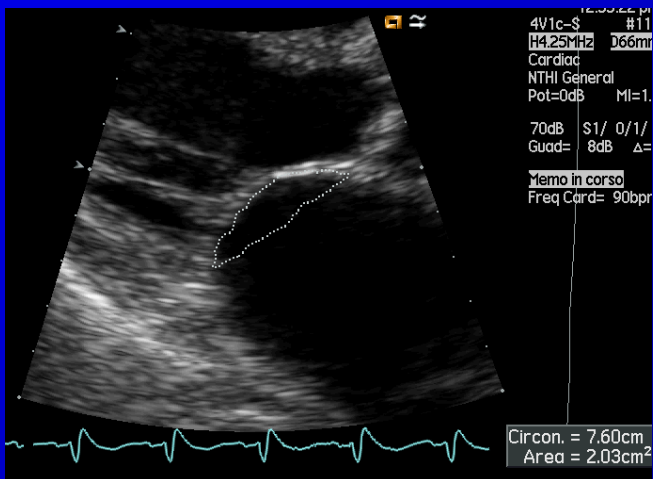
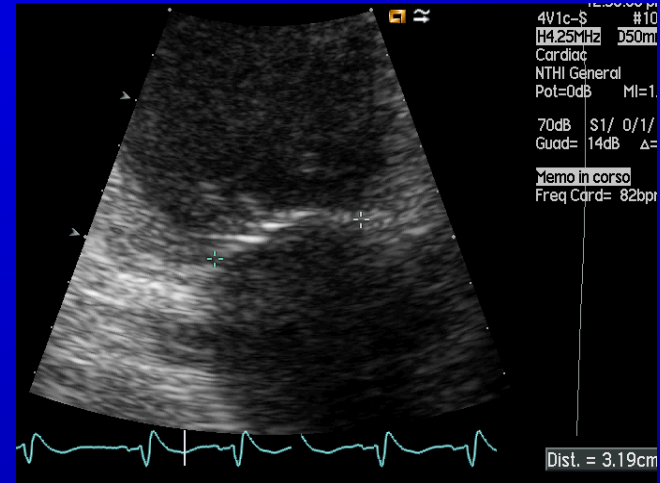
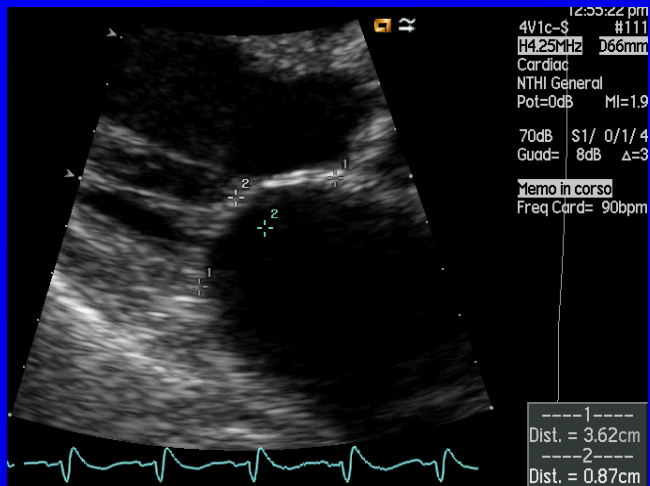


Clinical Case

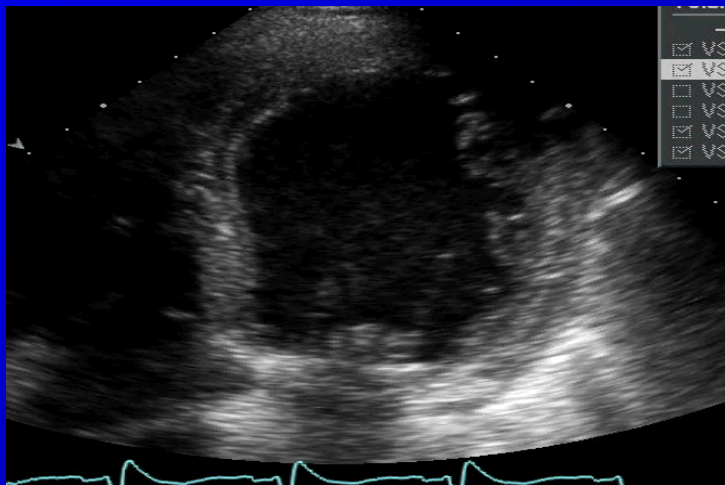
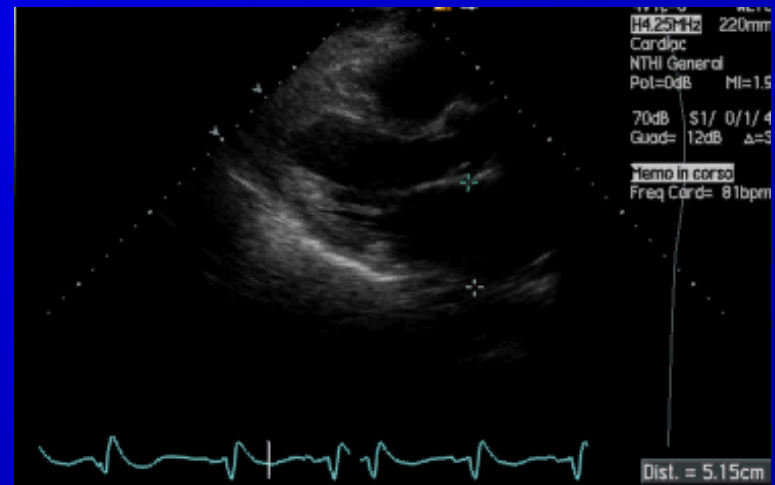
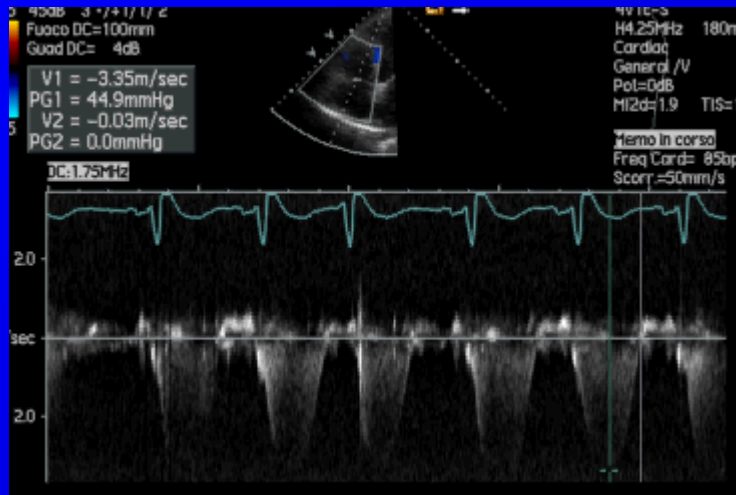
- **Male 72 years old**
- **III-IV NYHA Class**
- **Previous Ictus, Ventricle disfunction and recent Pulmonary edema and BPCO.**
- **Euroscore Calculated 75%**



Echocardiography



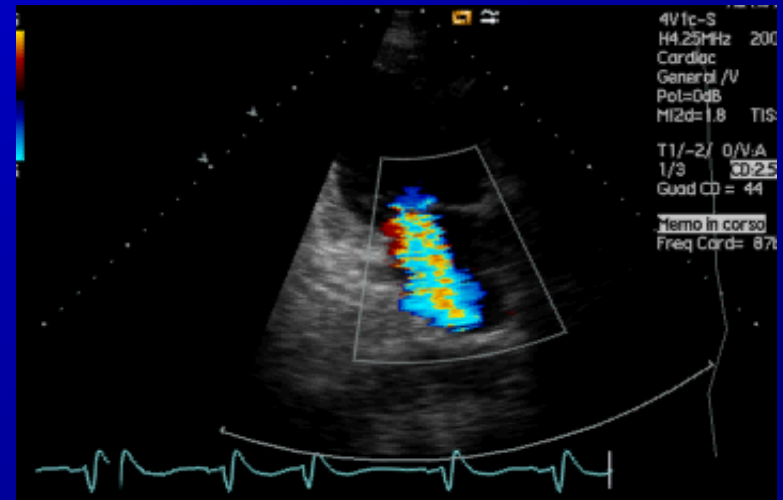
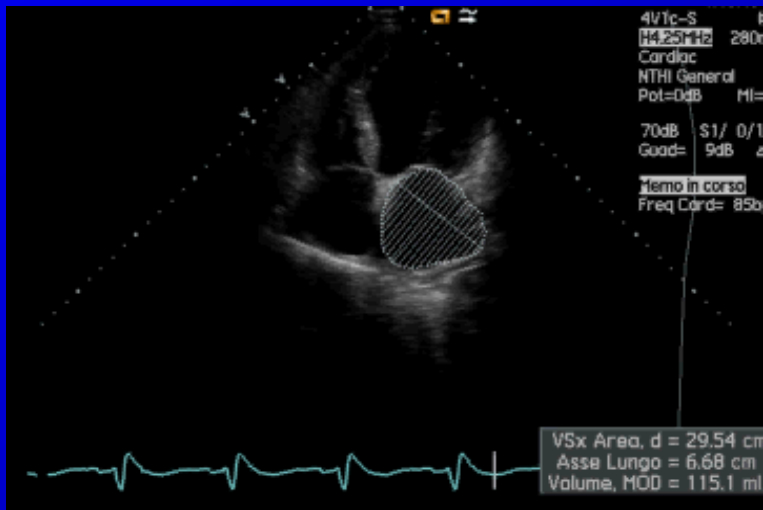
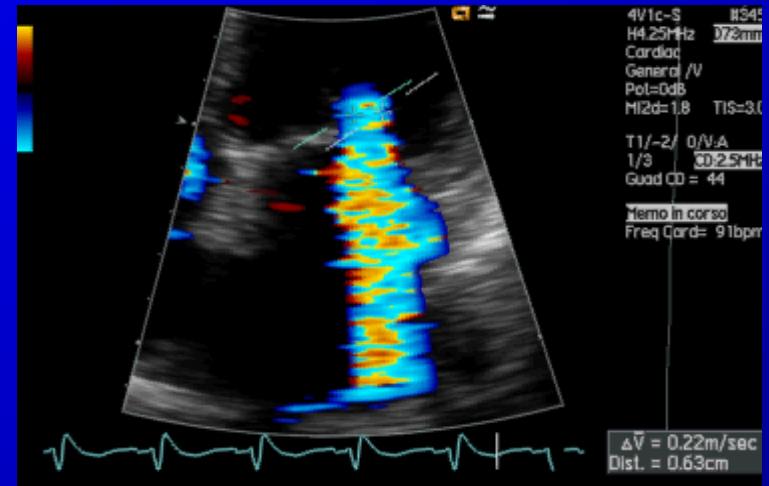
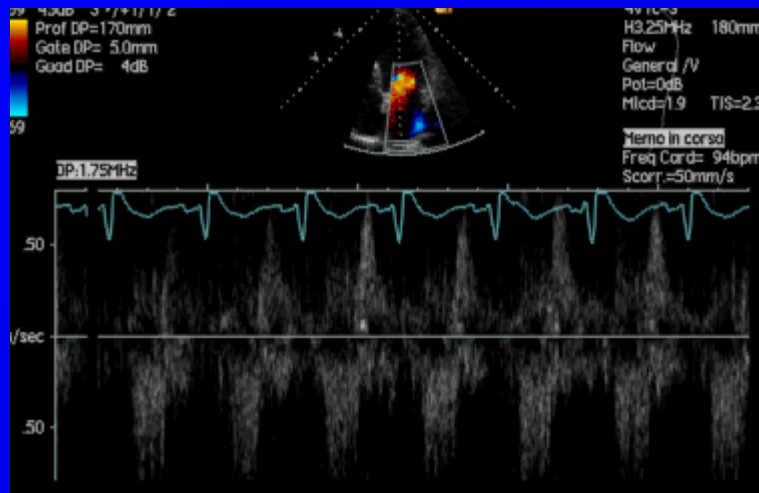
Echocardiography



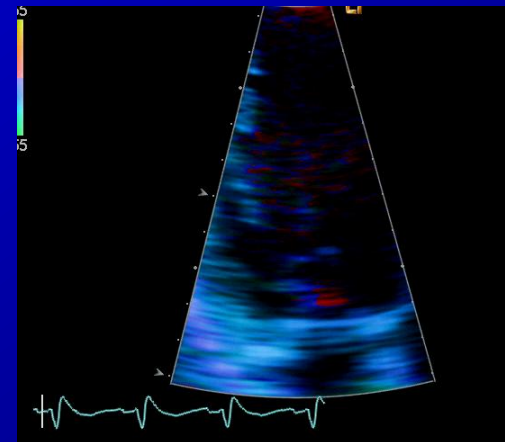
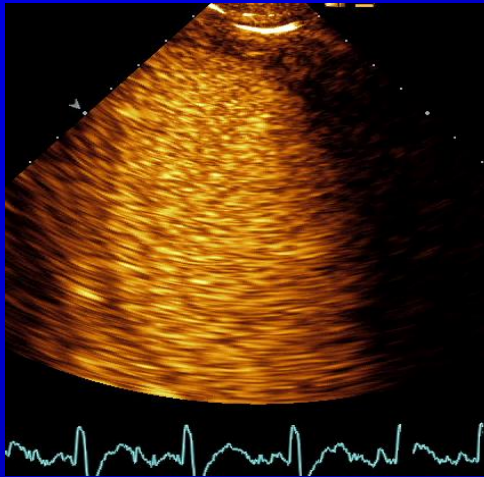
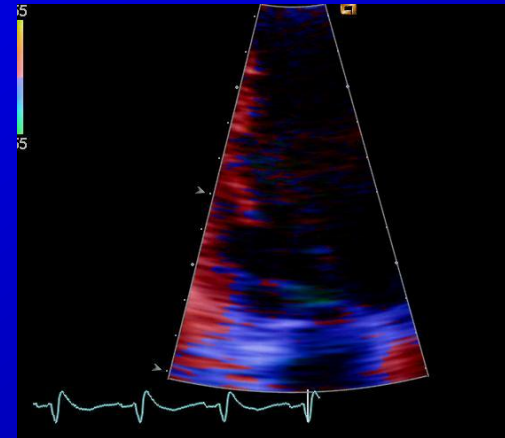
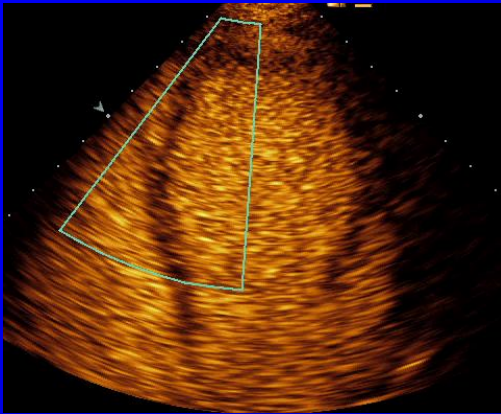
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VSx Vol. M DISC	174.4	142.5 ml	VSx Gilt s	31.9	31.6	ml	
VSx Vol. A/L	178.1	146.5 ml	VSx FE	18.3	17.8	%	
VSx Area	43.93	38.52 cm ²	VSx PC	2.72	2.69	l/min	
VSx Asse L	9.21	8.61 cm	FC	85	85	bpm	

Volumi 2D		VSx Volumi Biplana		M DISC		A/L	
VSx Vol. d	171.0	173.0 ml	VSx Gilt s	53.0	51.6	ml	
VSx Vol. s	118.0	121.5 ml	VSx FE	31.0	29.8	%	
			VSx PC	4.64	4.51	l/min	
			FC	88	88	bpm	

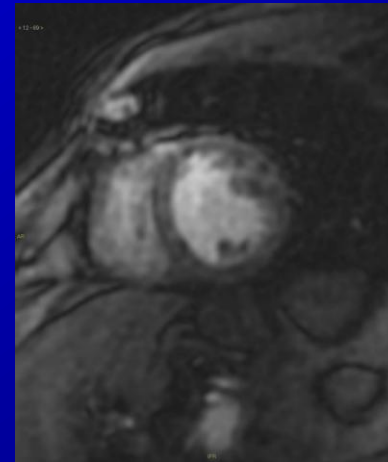
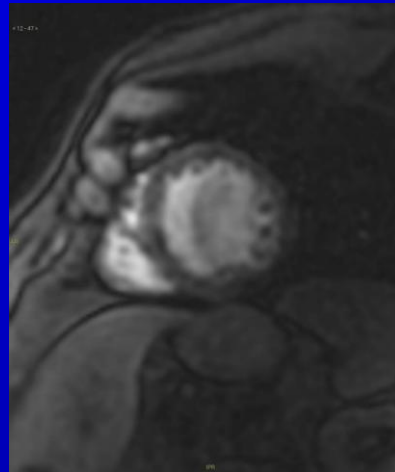
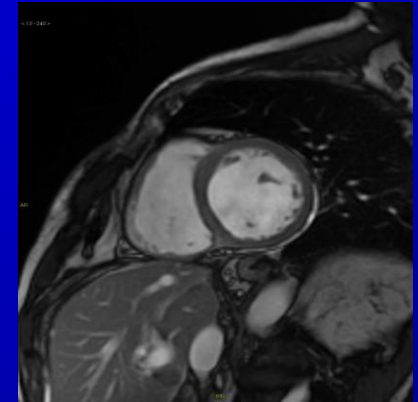
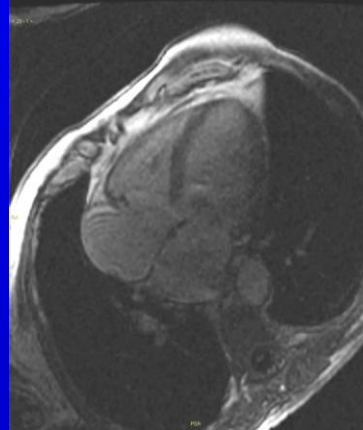
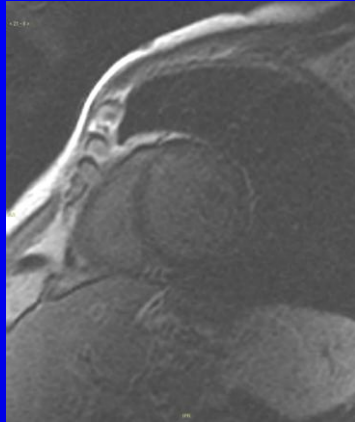
Echocardiography



Myocardial Perfusion and Tissue Doppler Imaging

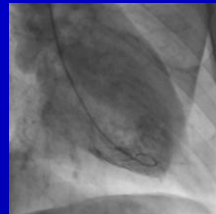


MRI Imaging



Tailored treatments and results

- **Off-pump CABG (LITA on LAD) was first done .After four weeks the patient on maximal medical therapy, showed moderate increase of LVEF 30 % with III NYHA class. A biventricular pacemaker was then implanted , with substantial improvement of LVEF. After 10 months a PTCA on the right coronary artery was done. At the 20-months follow up the patient is I NYHA class, has good quality of life. Last TTE examination showed :LVEF 45-50% , reduction of end-diastolic and end-systolic volumes and diameters,and a mild mitral regurgitation (+).**



Conclusions

A multi-imaging approach:

- 1) Allows to better understand the pathophysiological process of IMR and the possible positive ventricle reverse remodeling .**
- 2) Guides the choice of a tailor and optimal integrated treatment.**
- 3) Can reduce the mortality and morbidity of elderly high risk patient with IMR.**

