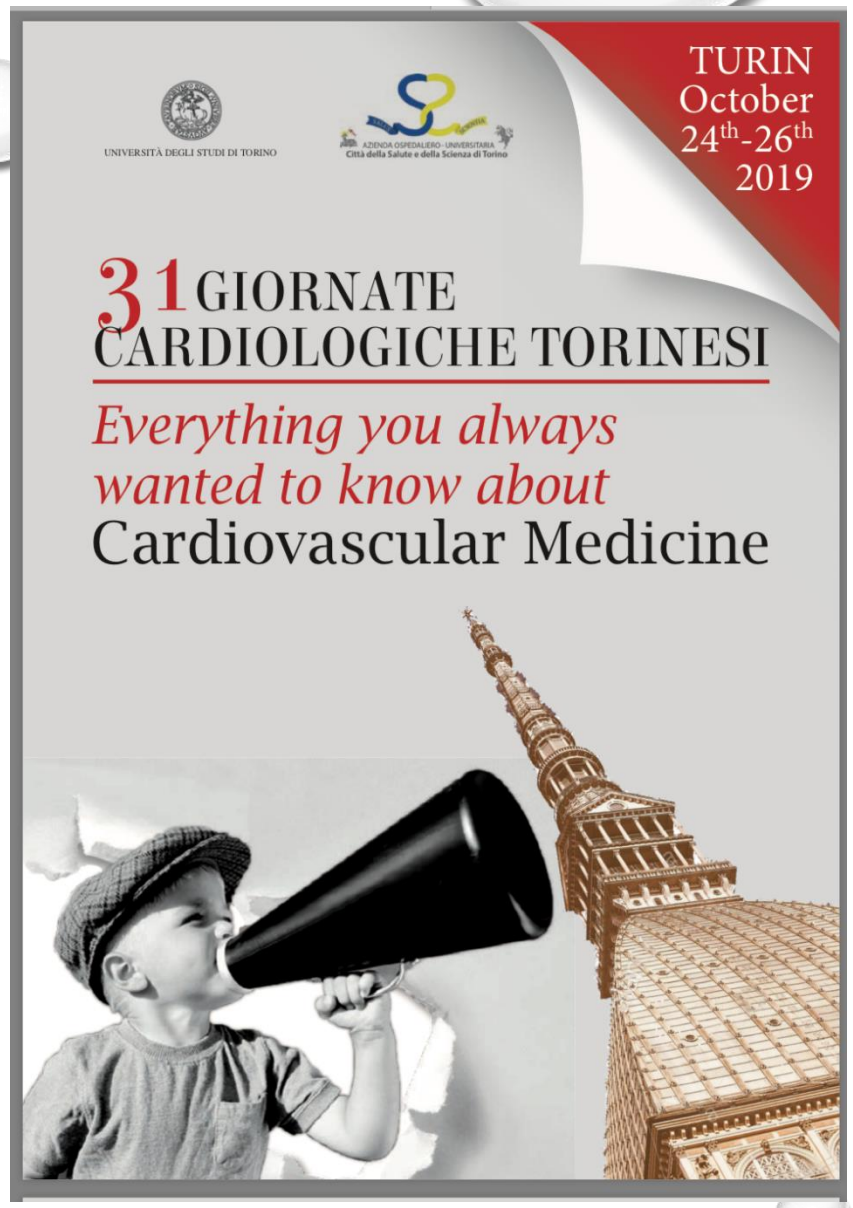


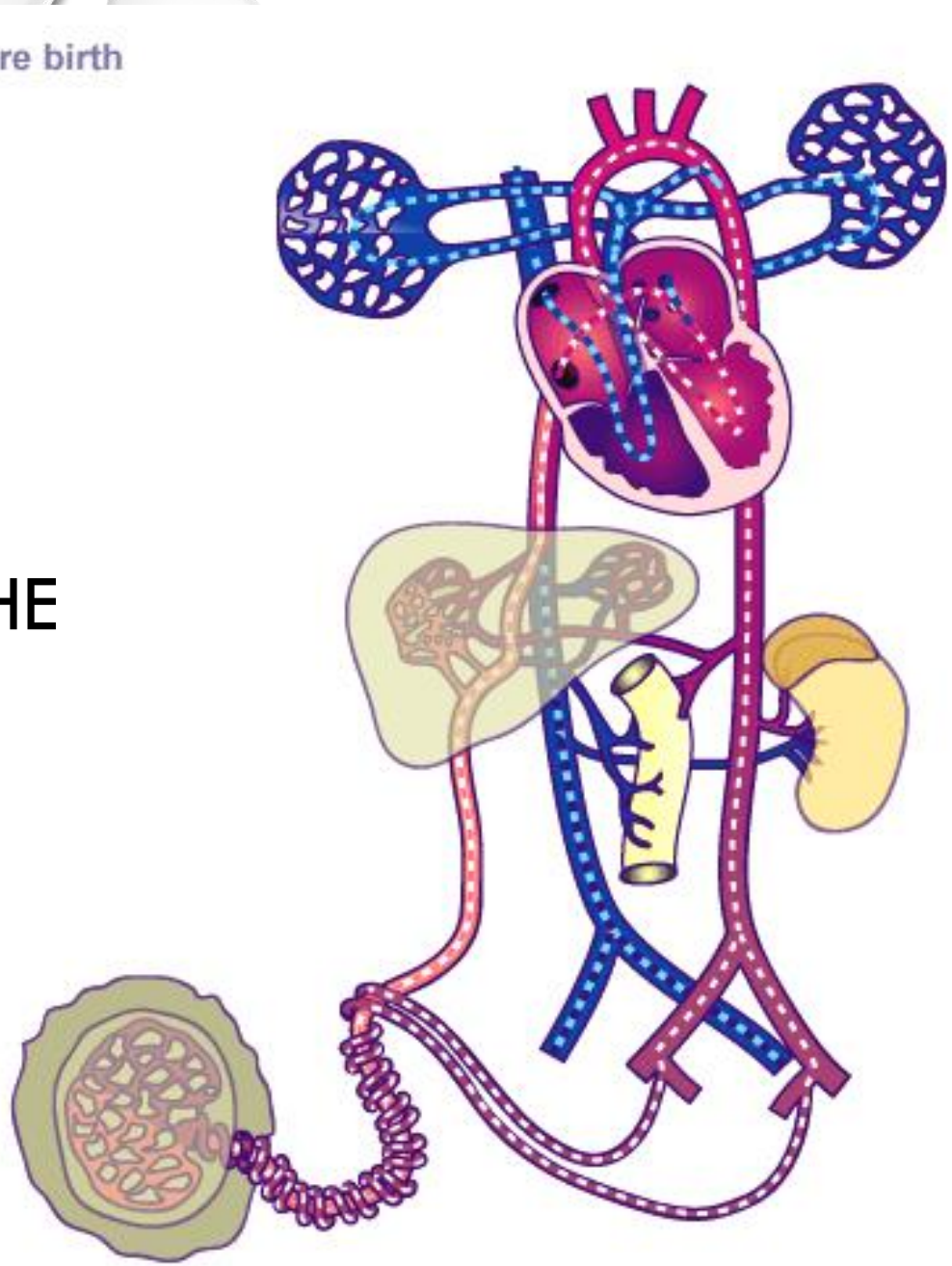
AZIENDA OSPEDALIERO - UNIVERSITARIA
Città della Salute e della Scienza di Torino

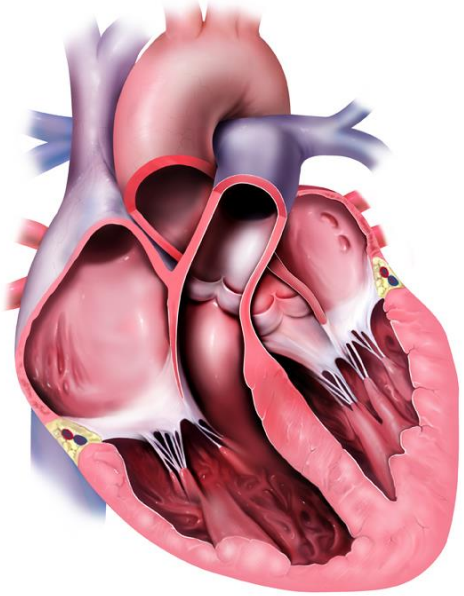
SPECTRUM OF CARDIOVASCULAR AND PULMONARY INVOLVEMENT IN GROWN UP CONGENITAL HEART PATIENTS

G AGNOLETTI

AZIENDA OSPEDALIERO - UNIVERSITARIA
Città della Salute e della Scienza di Torino

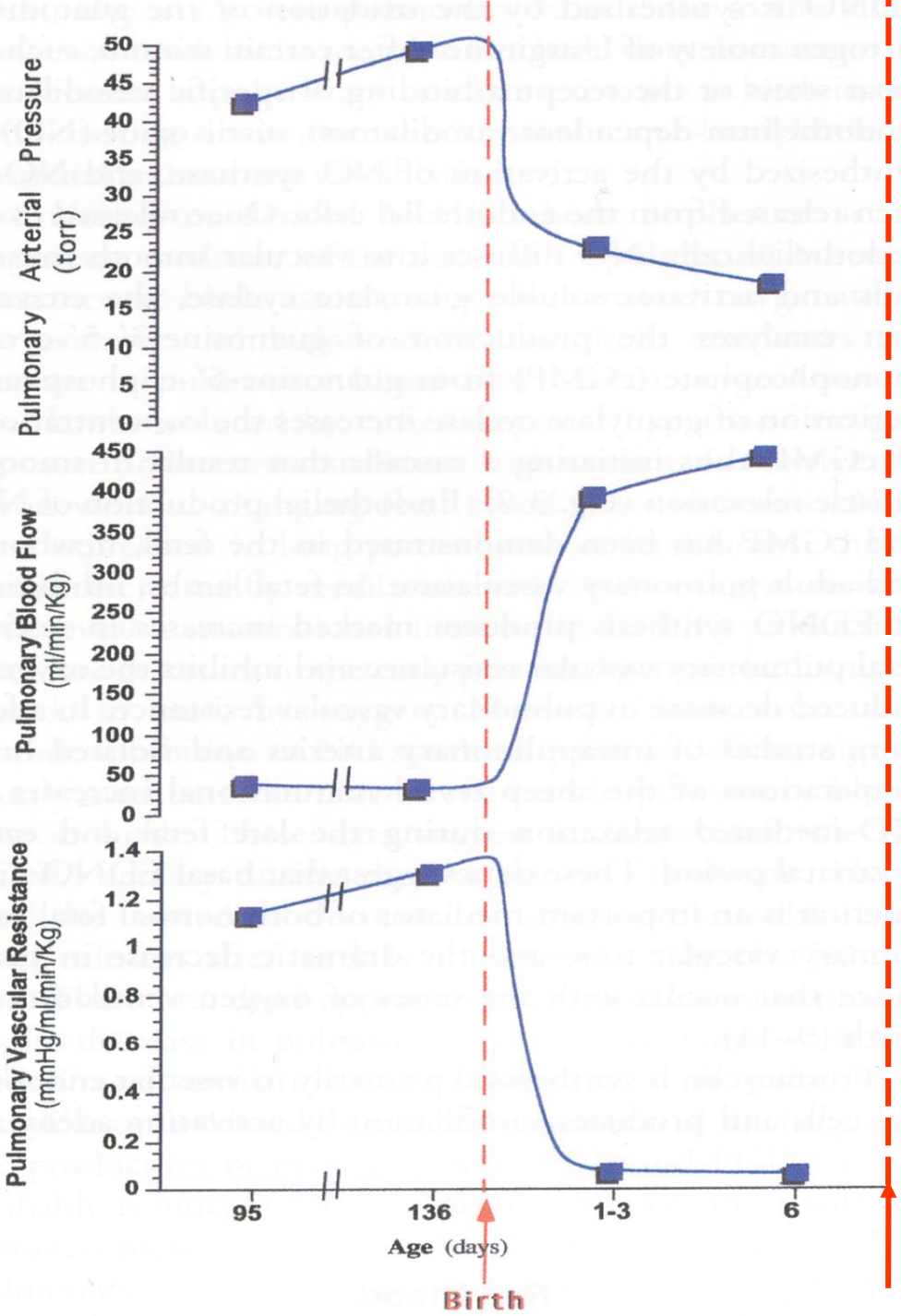
JULE VERNE
LET'S START FROM THE BEGINNING…





Normal Heart

AT BIRTH

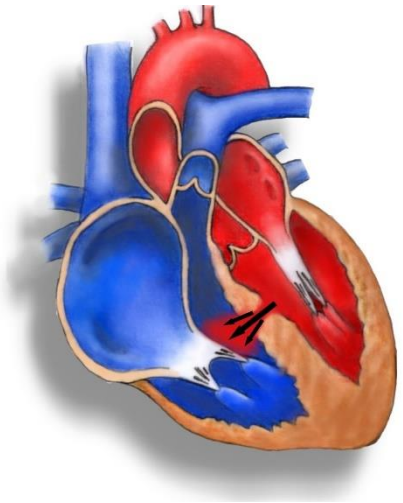


PRESSURE

FLOW

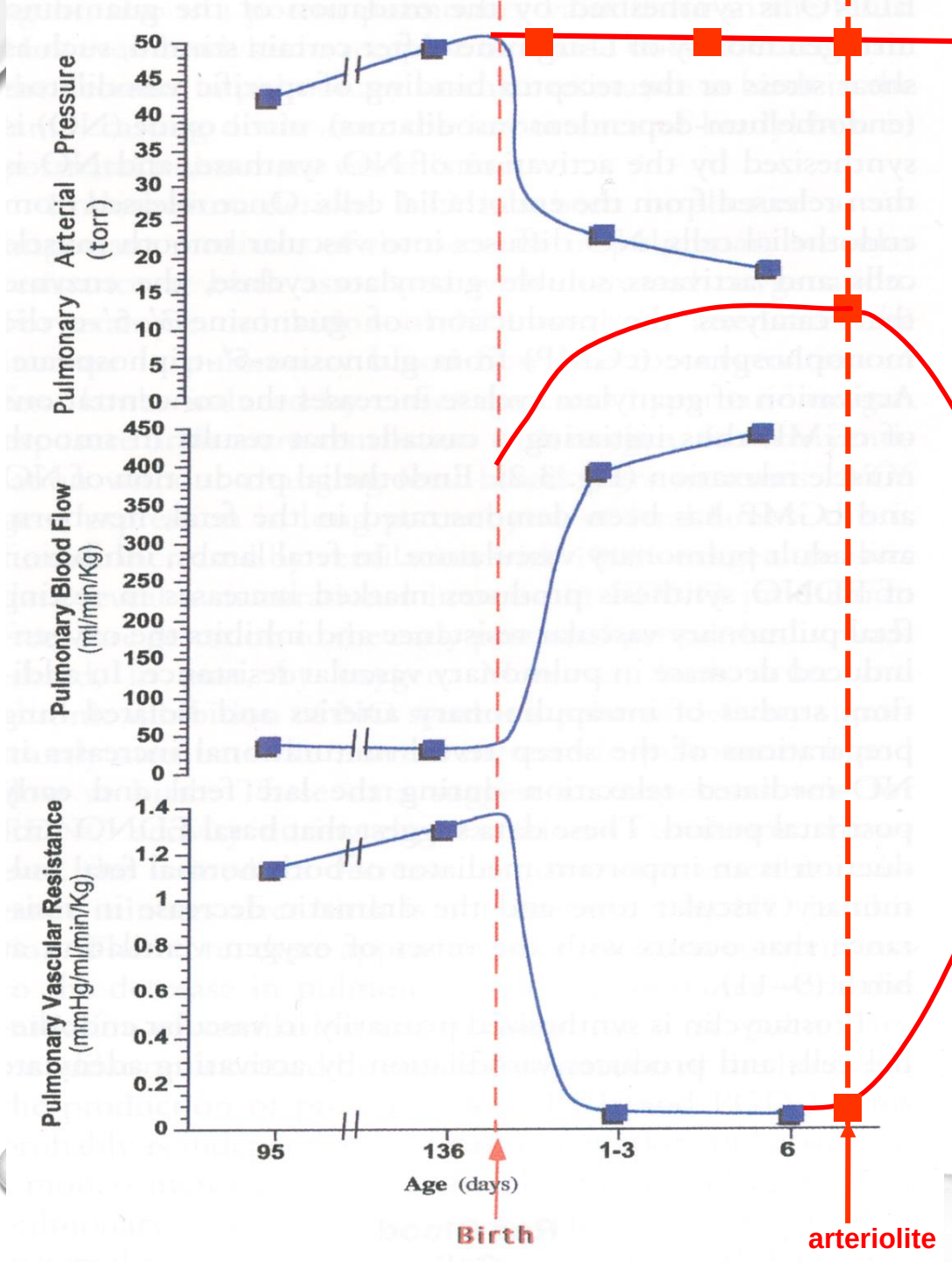
PVR

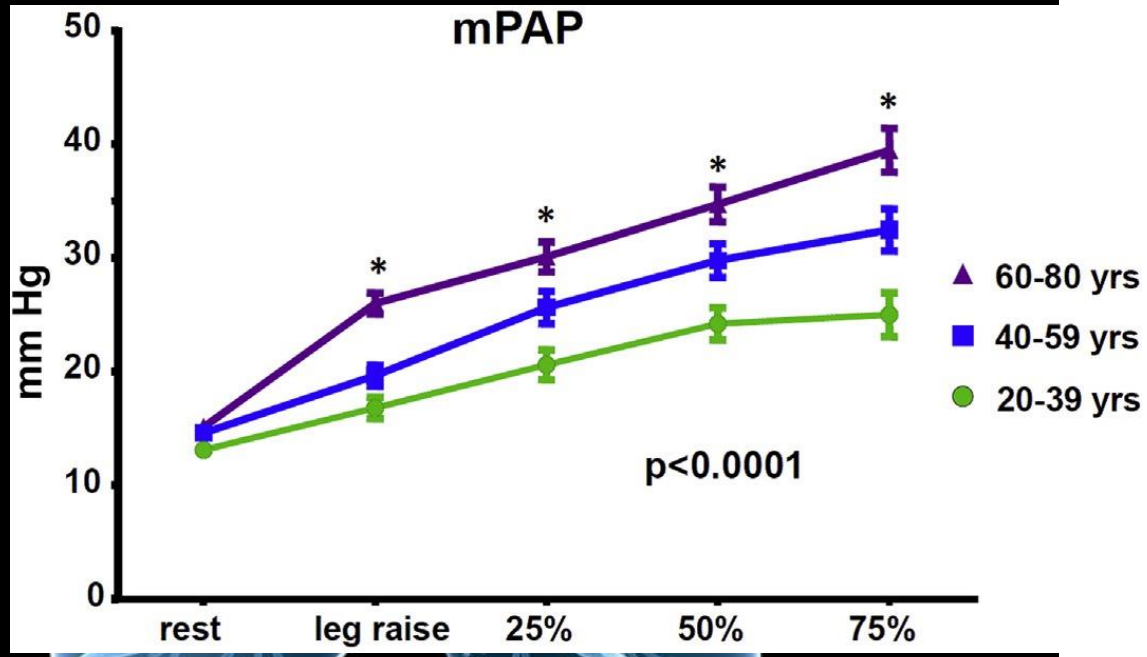
Shunts

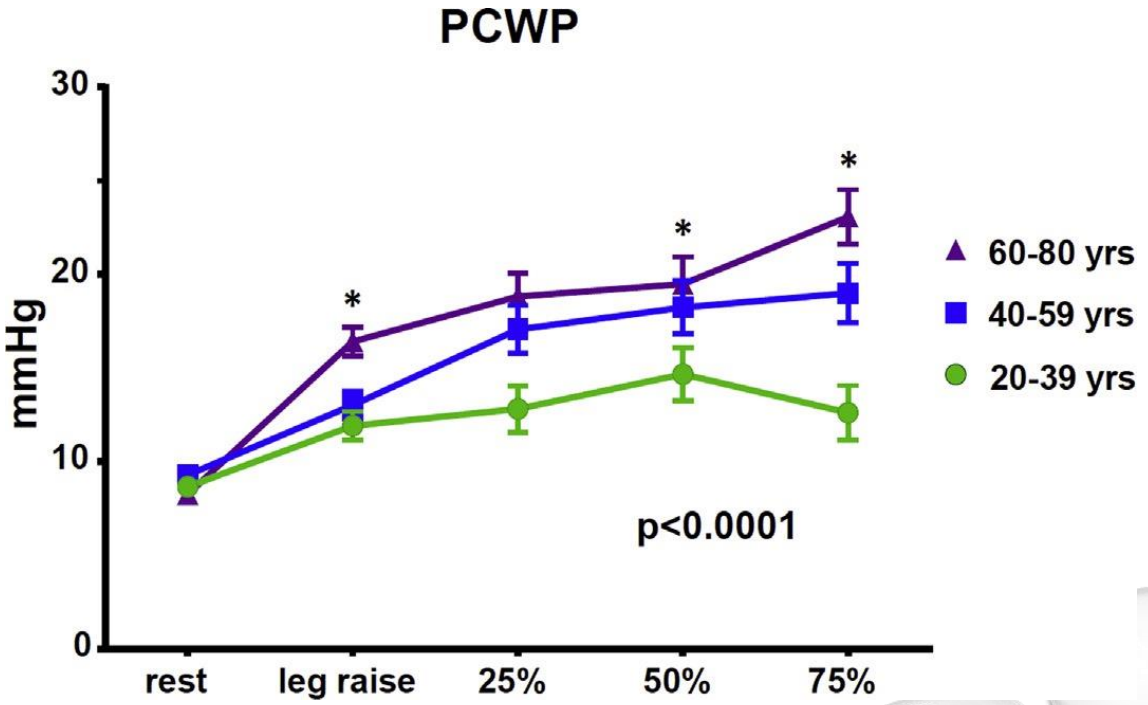


Normal Heart

AT BIRTH

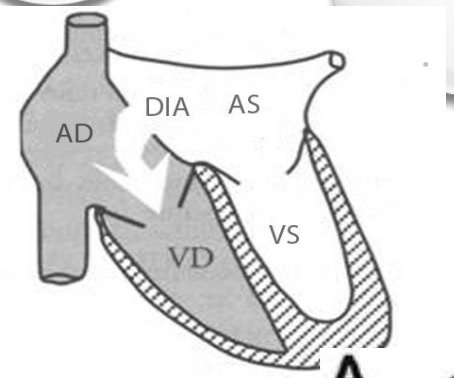




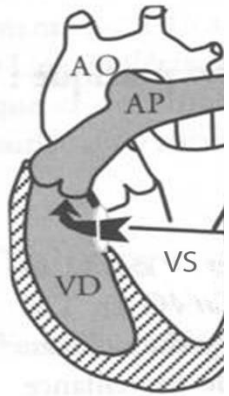


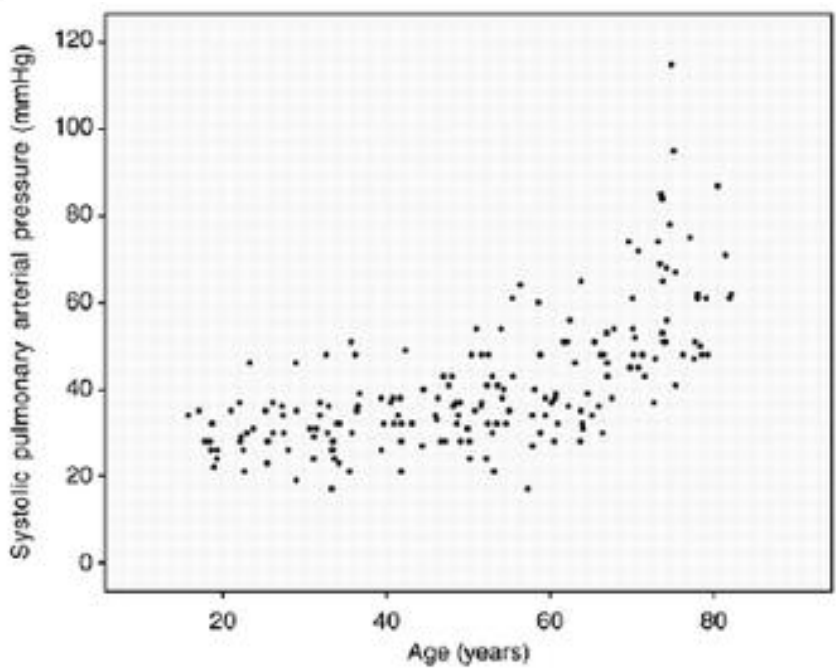
Cardiac AND LUNG aging was progressive without sex differences in healthy participants

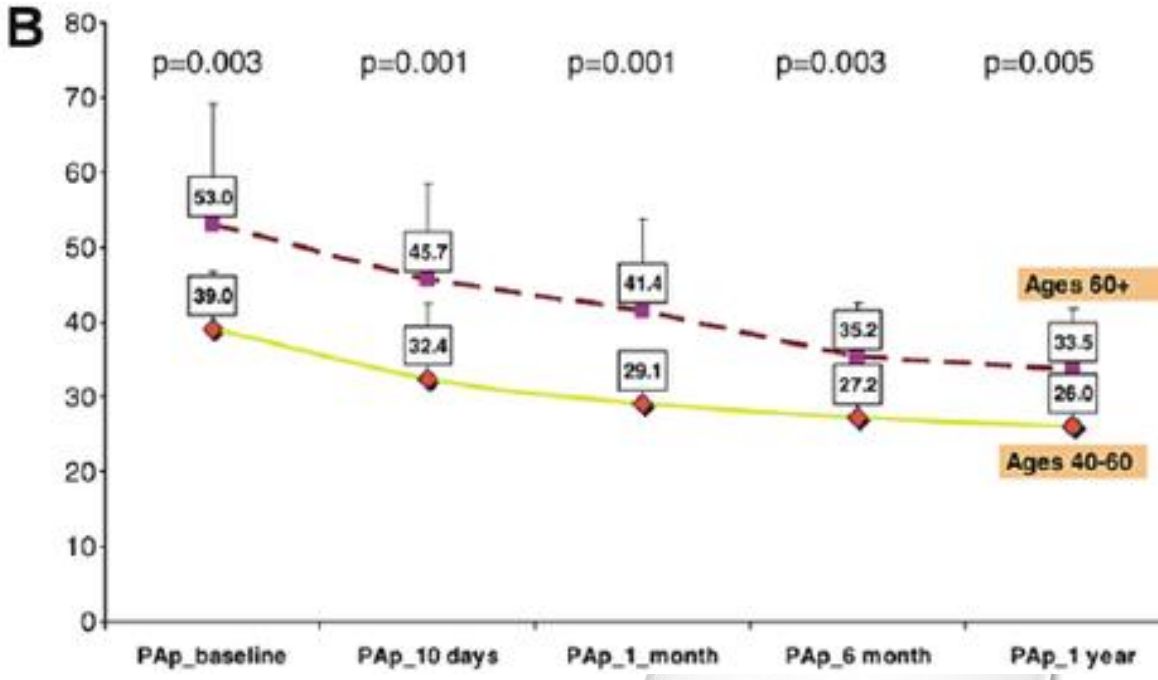
JACC Heart Fail. 2017

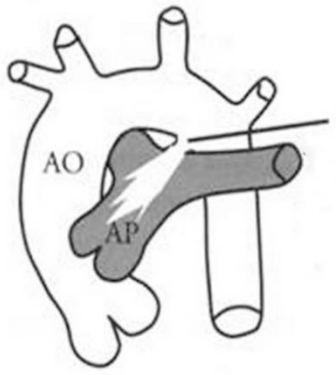


After closure









Relationship between pulmonary artery pressure and age in patients with secundum ASD

European Heart Journal 2011

PAH-CHD

Incidence

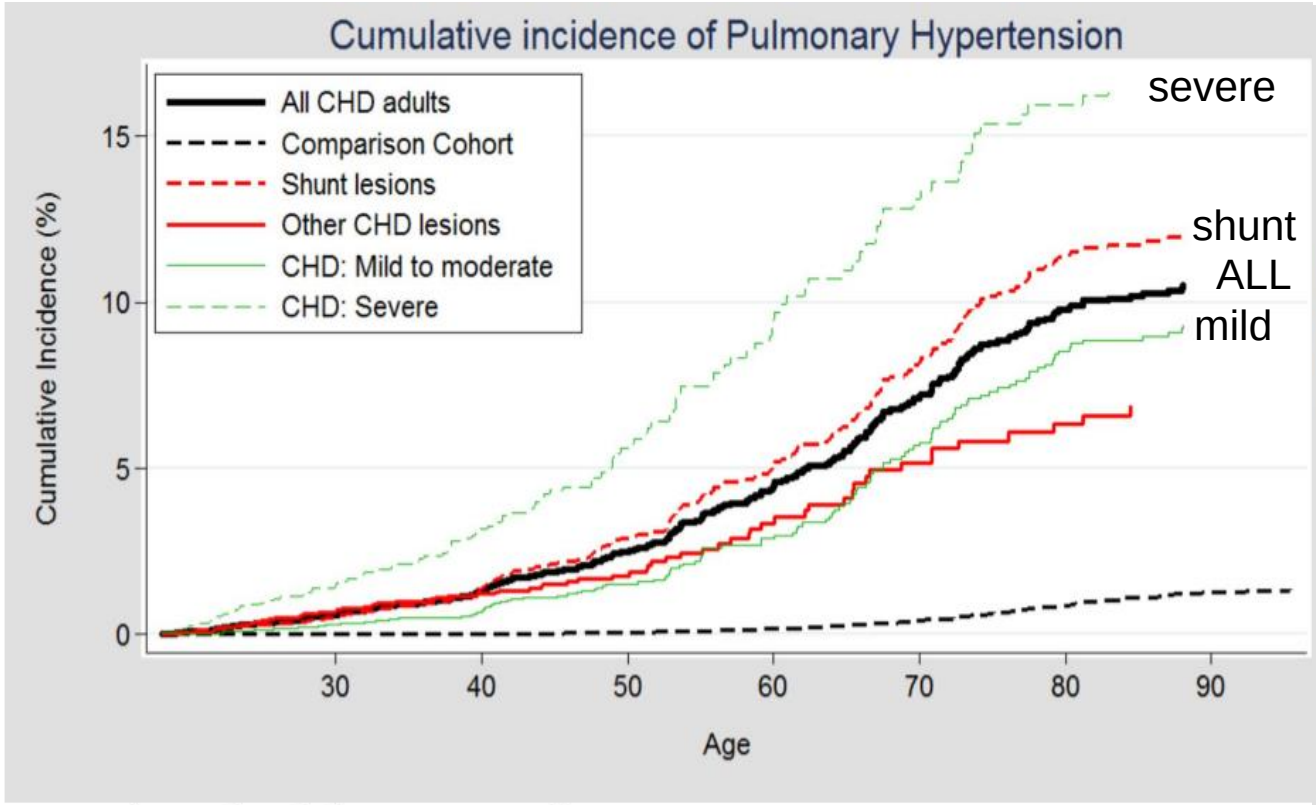
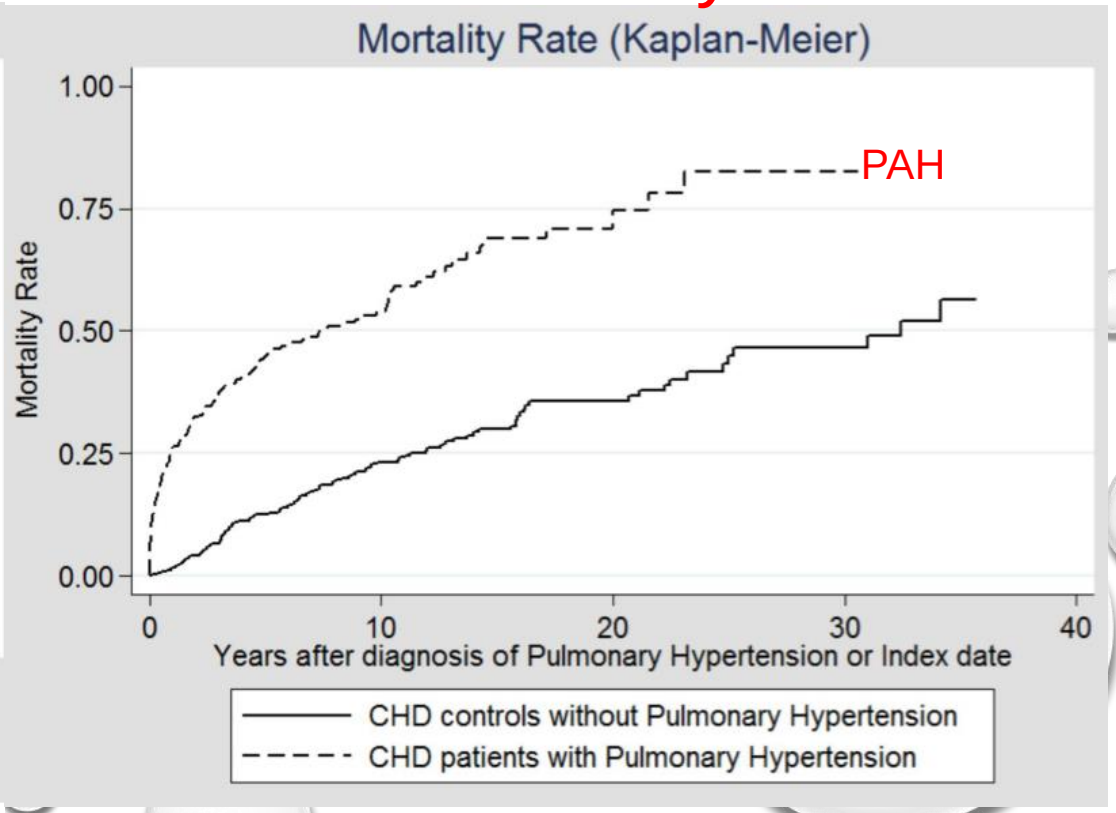


Figure 1 Cumulative Incidence of Pulmonary Hypertension.tiff

Mortality



Schwartz Am J Cardiol 2018

Increase of patients with complex CHD

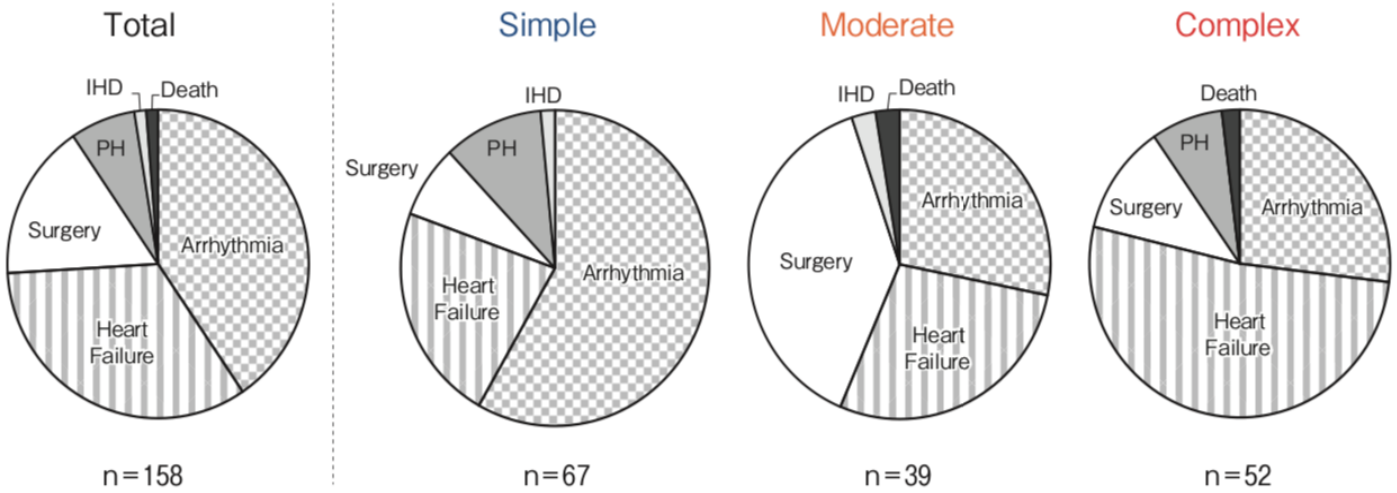


Fig. 2 Causes of hospitalization. The causes of hospitalization depending on ACHD complexity are shown. Transcatheter intervention was the most common cause in the Simple group, with surgery the most common cause in the Moderate group, and heart failure in the Complex group. IHD, ischemic heart disease; PH, pulmonary hypertension.

Acta Med. Okayama, 2019

Freedom from tachyarrhythmia

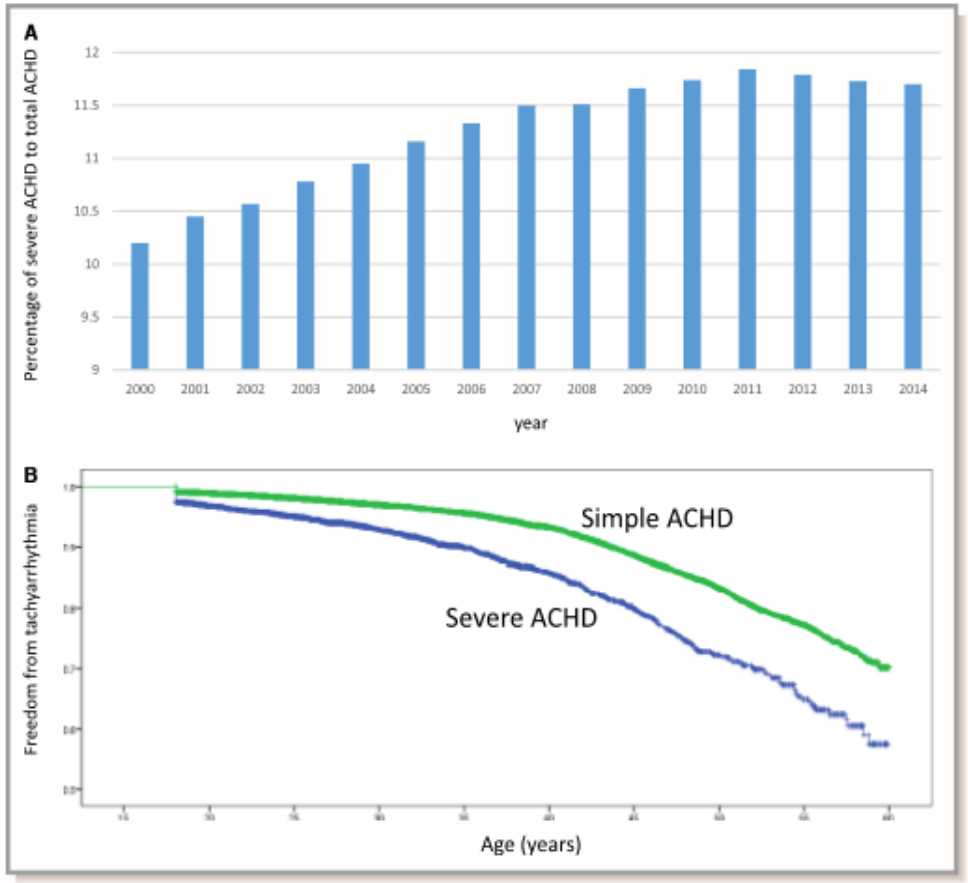


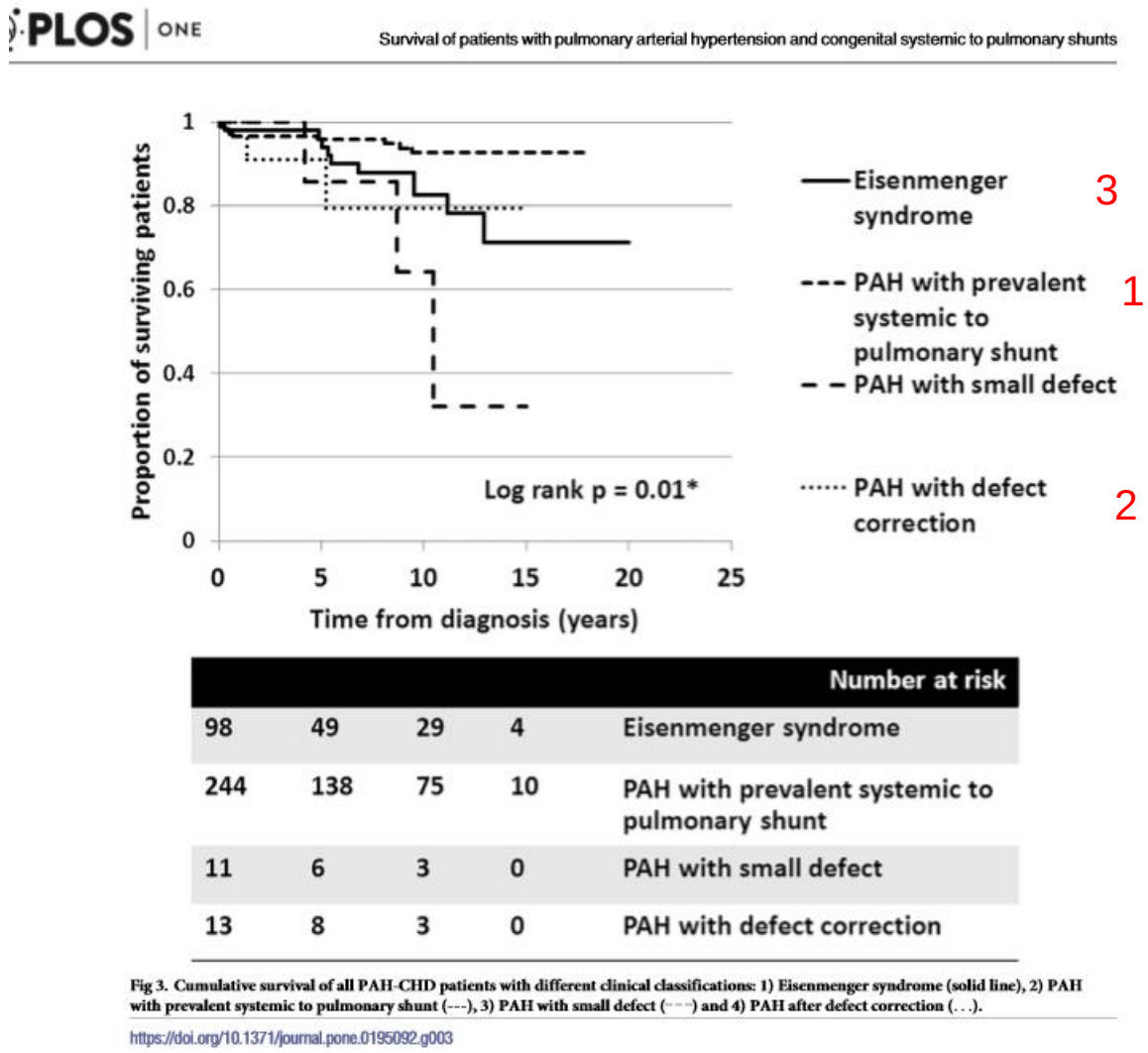
Figure 1. A, Percentage of severe adult congenital heart disease in the whole adult congenital heart disease cohort from 2000 to 2014. B, Freedom from tachyarrhythmia in simple adult congenital heart disease (simple ACHD) and severe adult congenital heart disease (severe ACHD) cohorts.

Wu J Am Heart Assoc 2018

PAH-CHD

Survival

- PAH-CHD: 70-90% at 25 yrs



Vijarnsorn Plos one 2018

NOT ONLY PAH

- PAH /arrythmia
- PAH / heart failure
- PAH / iron - PLT
- PAH / polypharmacy …

Hospitalisations for heart failure predict mortality in pulmonary hypertension related to congenital heart disease

Despoina Ntiloudi,[1] Sotiria Apostolopoulou,[2] Konstantinos Vasiliadis,[3] Alexandra Frogoudaki,[4] Aphrodite Tzifa,[5] Christos Ntellos,[6] Styliani Brili,[7] Athanasios Manginas,[8] Antonios Pitsis,[9] Marios Kolios,[10] Haralambos Karvounis,[1] Costas Tsioufis,[7] John Goudevenos,[10] Spyridon Rammos,[2] George Giannakoulas,[1] on behalf of the CHALLENGE investigators

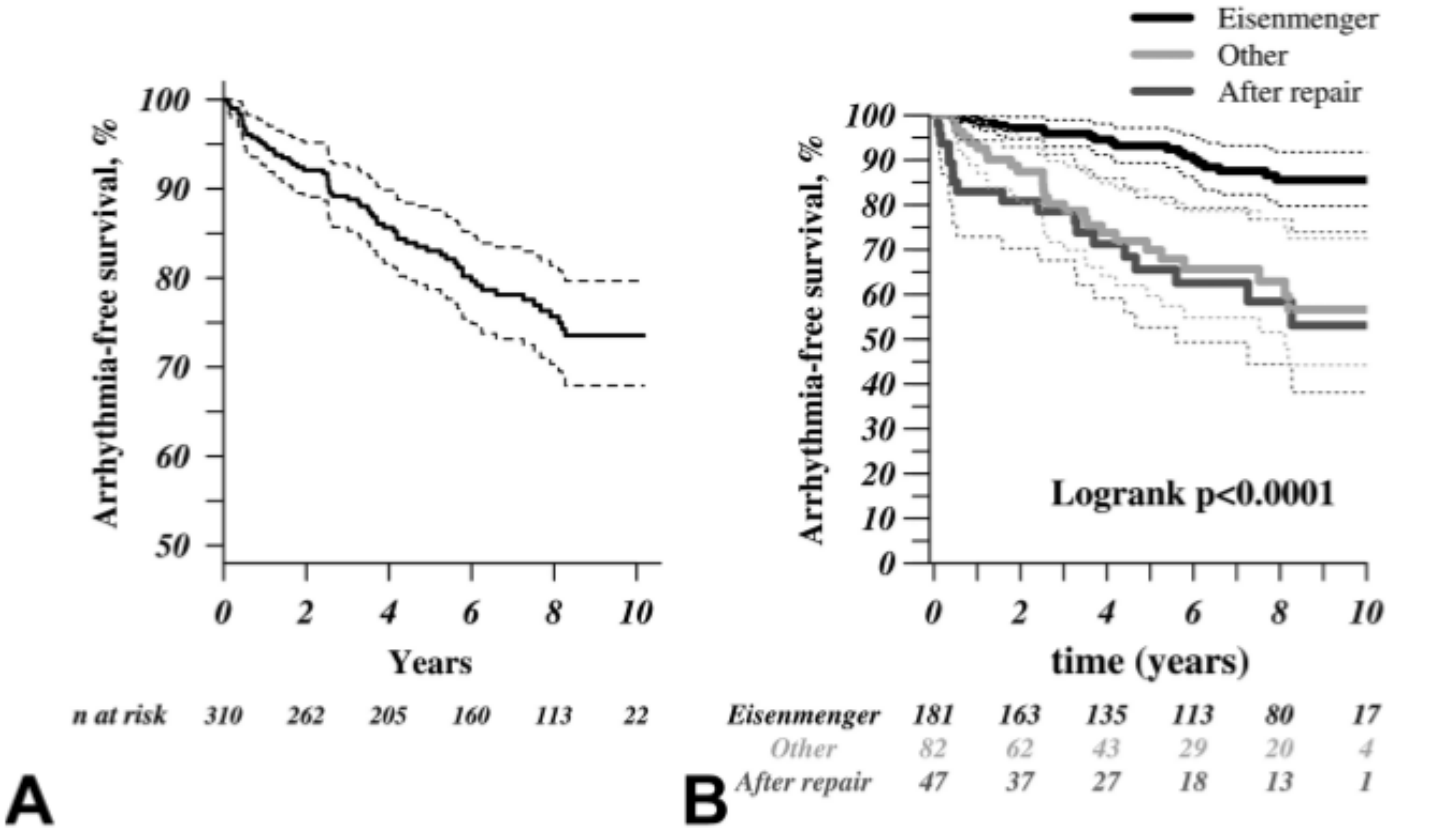
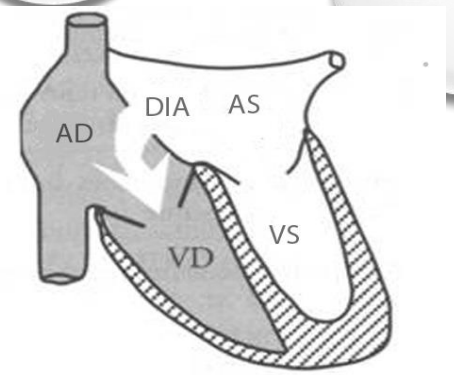
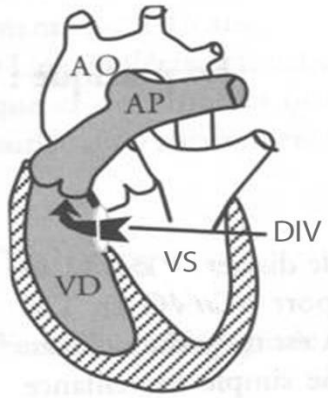
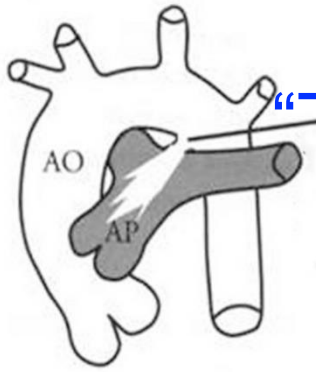


Figure 2 The incidence of arrhythmia in the overall pulmonary arterial hypertension with congenital heart disease (PAH-CHD) population (A) and PAH-CHD subgroups (B). The 'other' group contains patients with PAH and left-right shunts as well as patients with PAH-CHD and small (coincidental) defects.







Beneficial effects of percutaneous ASD closure in adults.

Definite effects of ASD closure	Possible Effects of ASD closure
RV size ↓	Atrial arrhythmias ↓
LV size ↑	
PA pressure ↓	
RA size ↓	
Exercise capacity ↑	
NYHA class ↓	

« Pulmonary artery pressure improves after ASD closure regardless of patient age ».

“Not too old to be closed…..”

“The benefit of atrial septal defect closure in elderly patients”

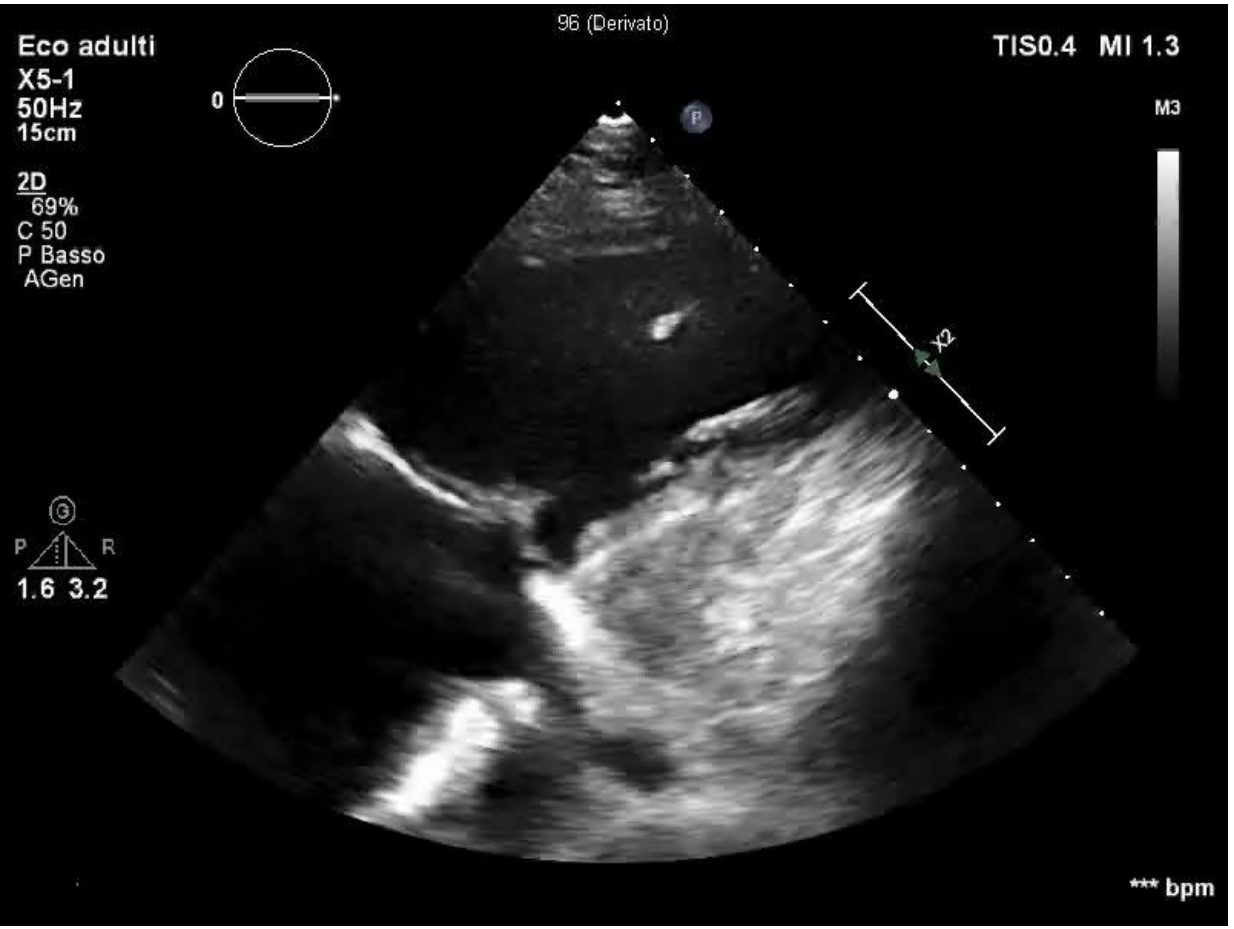
Congenit Heart Dis. 2009 Am J Cardiovasc Dis. 2012, Neth Heart J. 2010…..

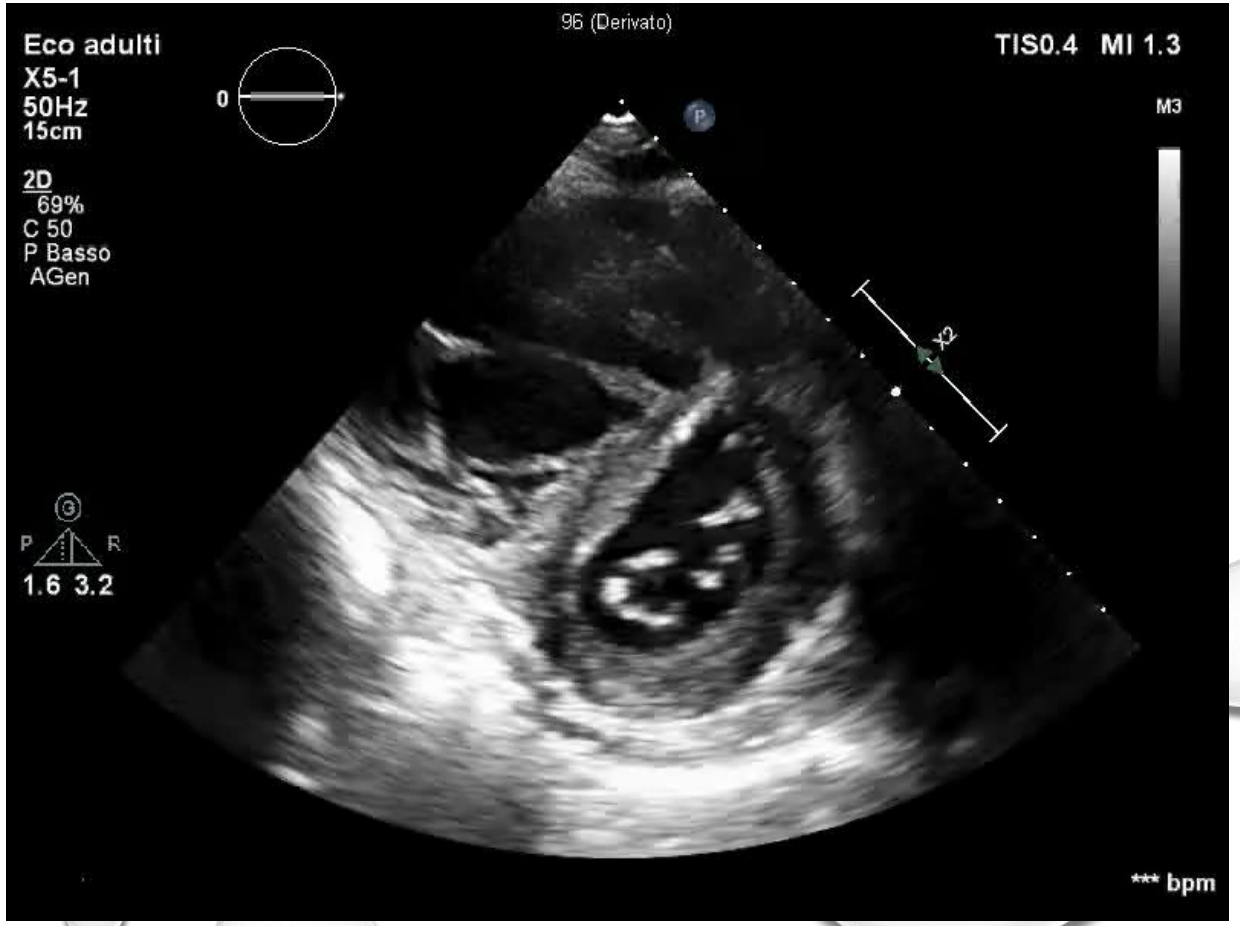
- Giuseppe aa 73
- 2003 (67aa) chiusura percutanea ASD (per evitare l'insorgenza di FA)

- 2019: FA, iperteso, displasia polmonare con steno-insufficienza, VD dilatato +++

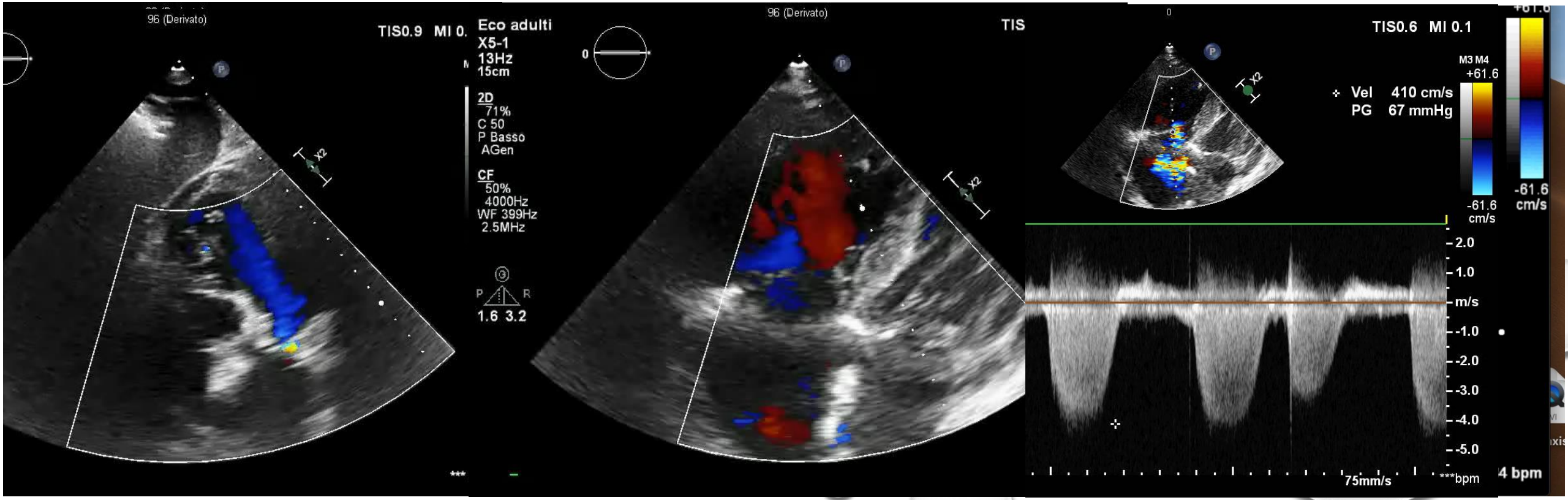
INDICAZIONE A VALVOLAZIONE POLMONARE

ECO PRE VALVOLAZIONE
Il VD

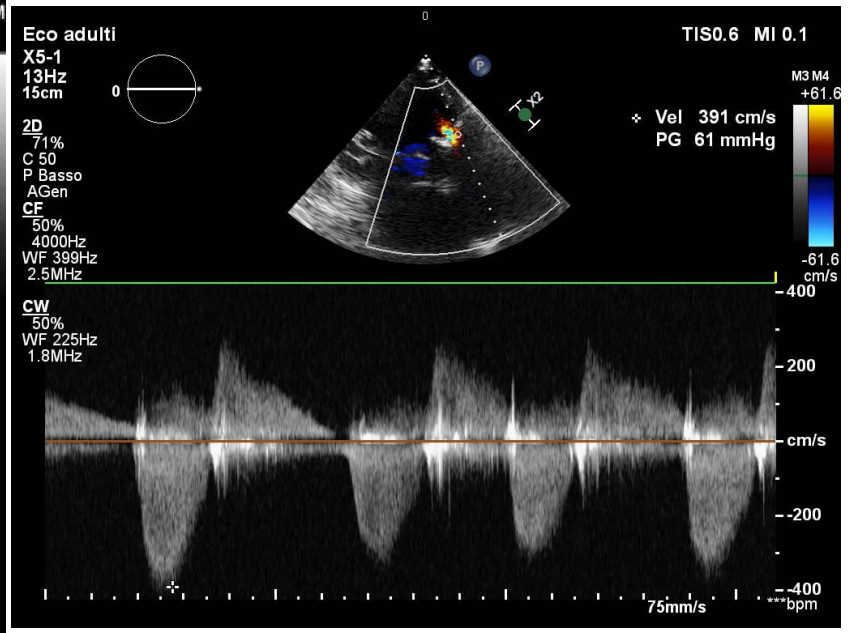




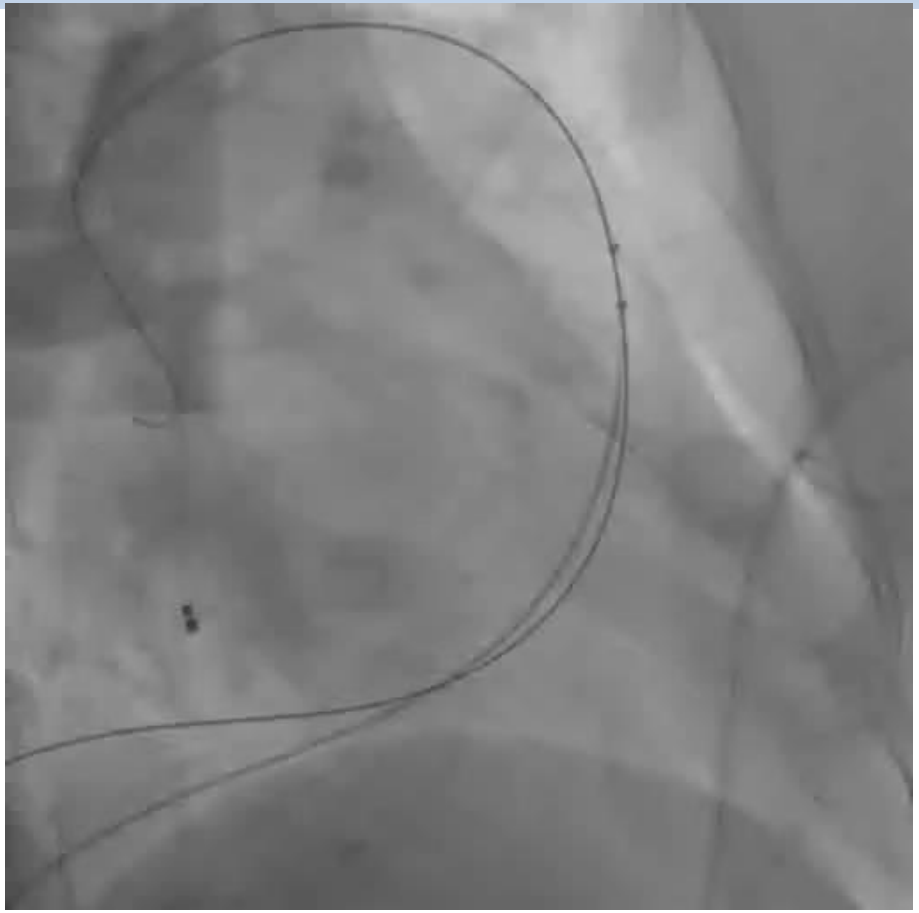
ECO PRE VALVOLAZIONE
IP - IT

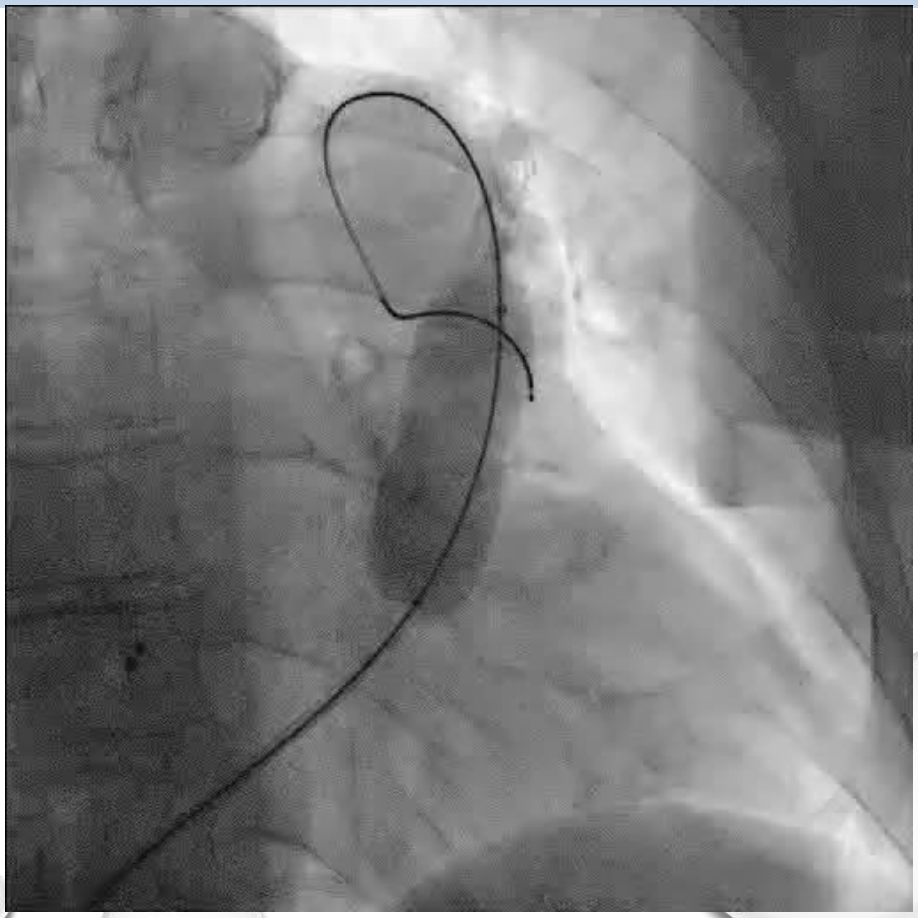


ECO PRE VALVOLAZIONE
SVP



VALVOLAZIONE
Calibrazione

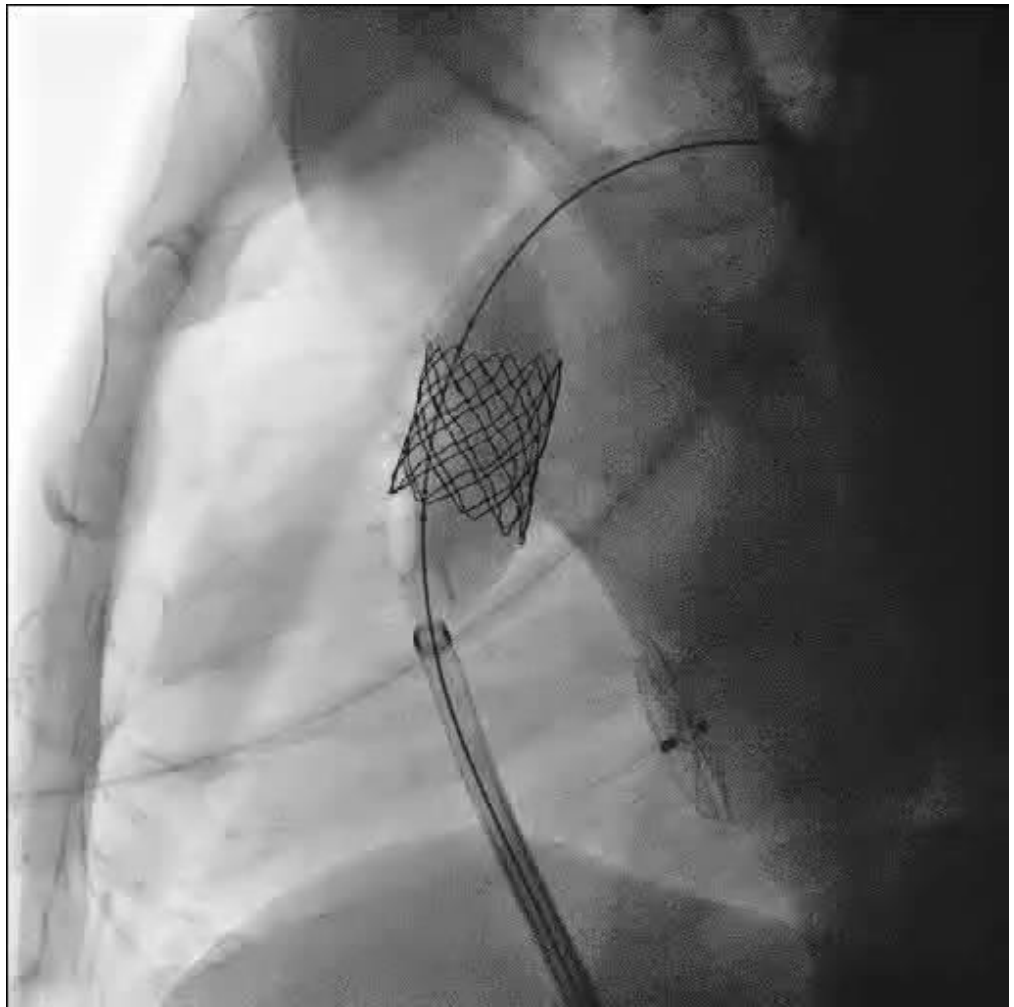


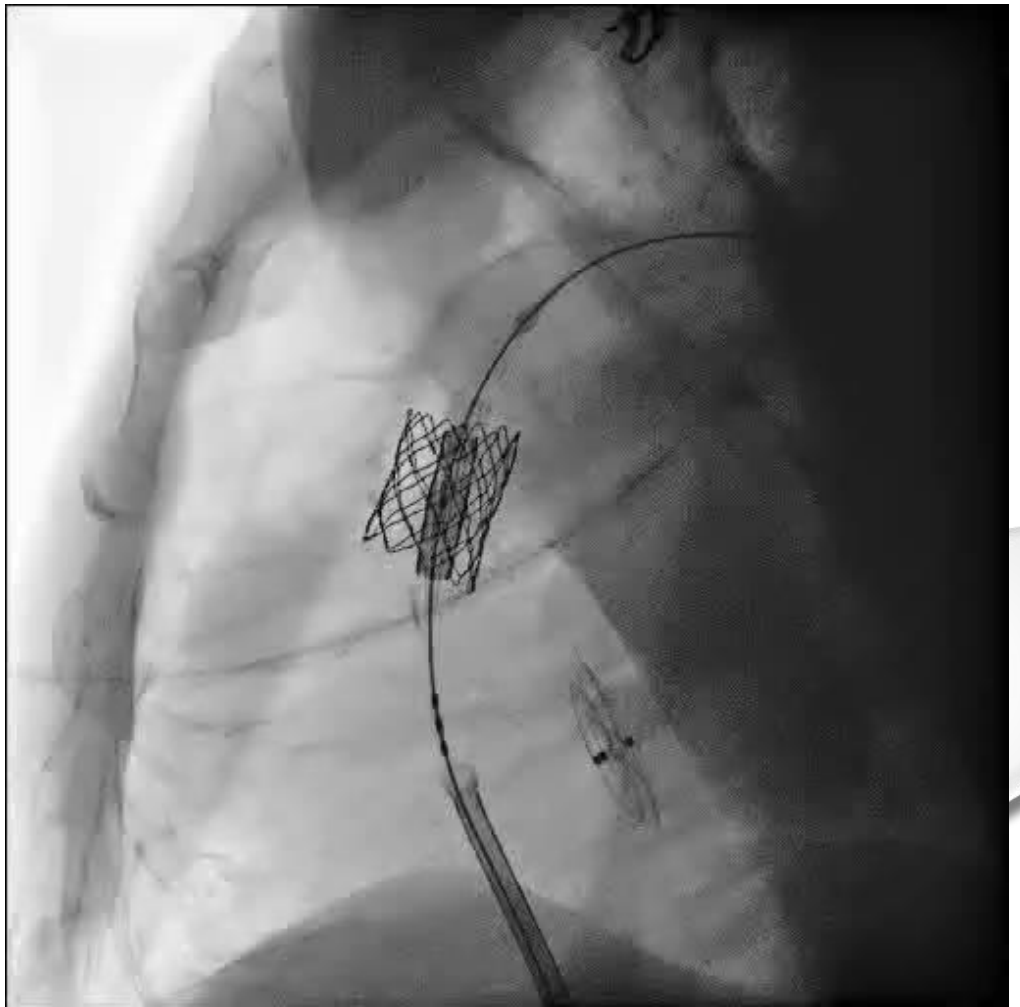


?

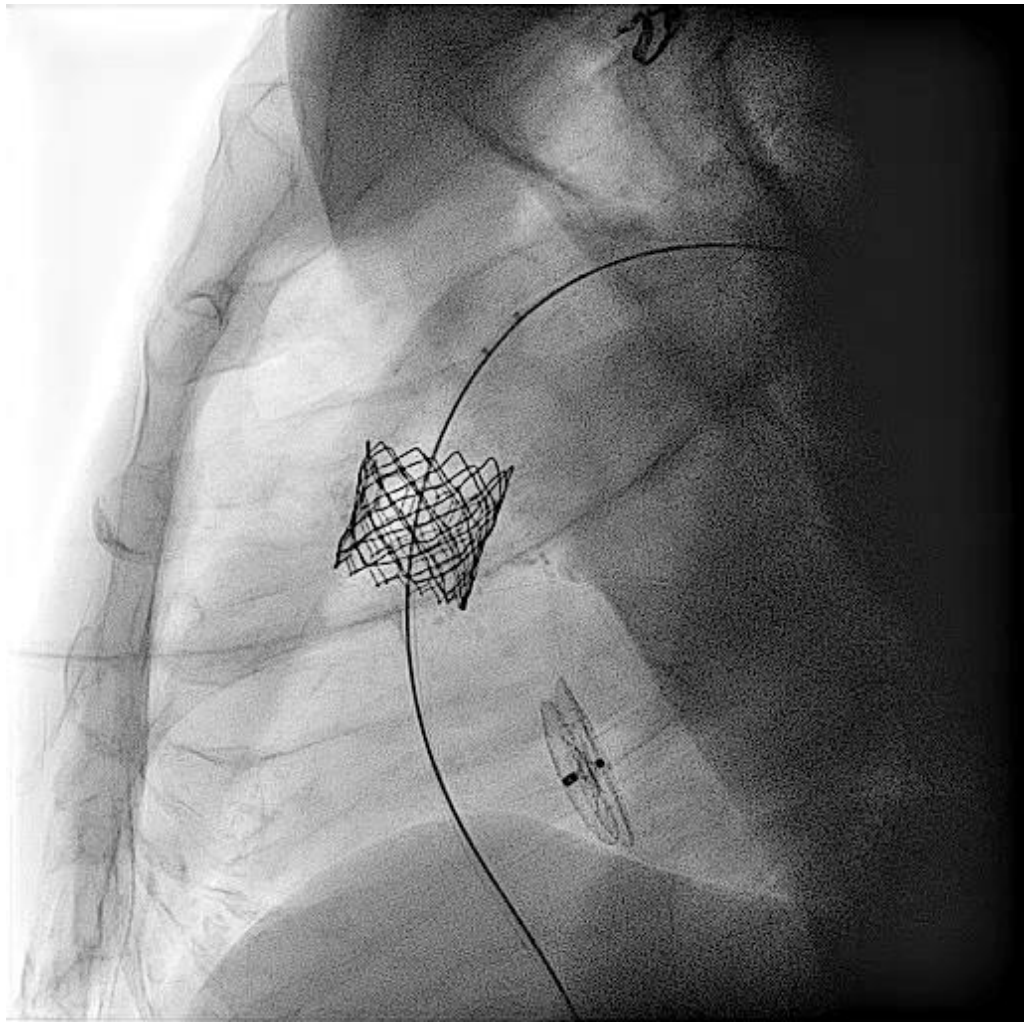
Pressioni basali: Ao:220/110/ mm Hg !!!!! PA 94/29/55 mmHg ……

VALVOLAZIONE
Prestenting e valvolazione





VALVOLAZIONE
Sapien 29 mm



PRESSIONI FINALI

- Aorta 170/78/105 mmHg
- Polmonare 92/46/62 mmHg

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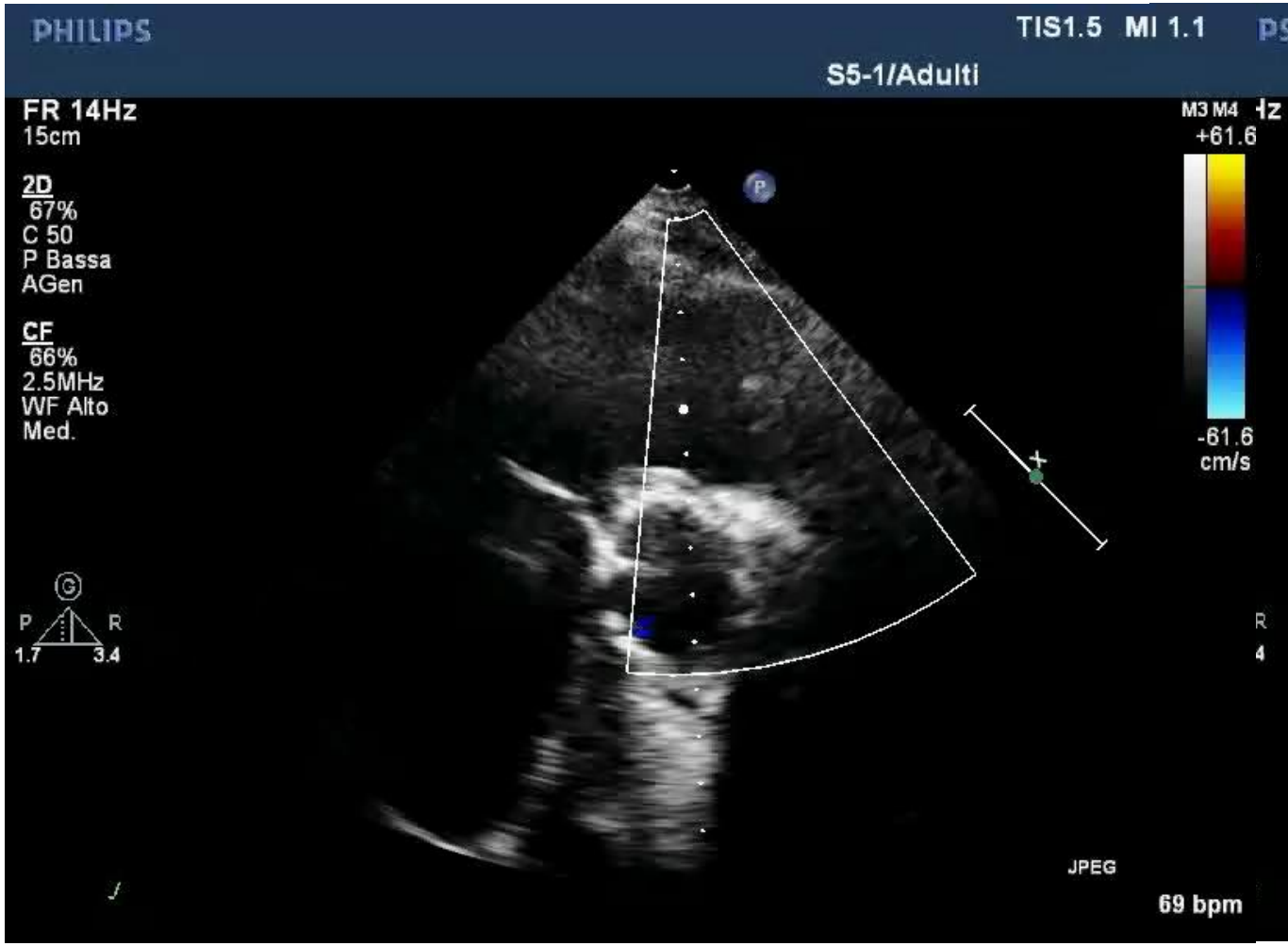
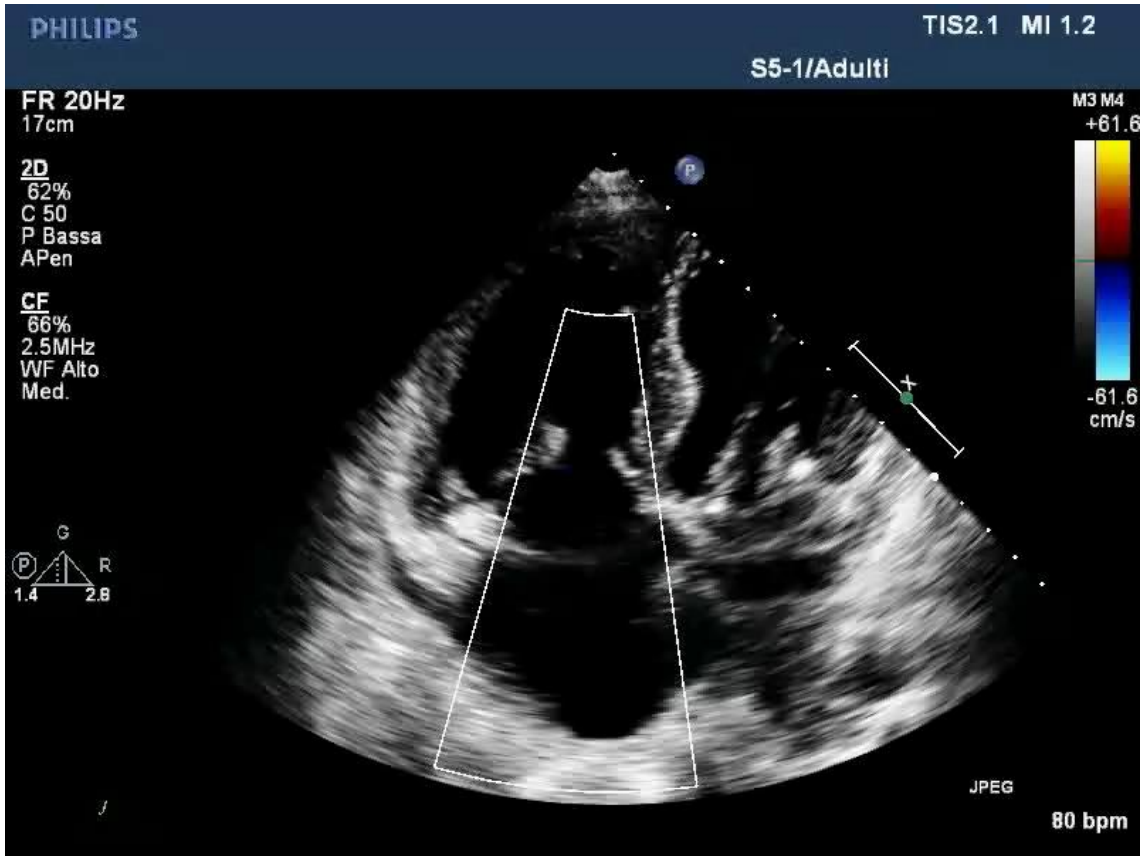
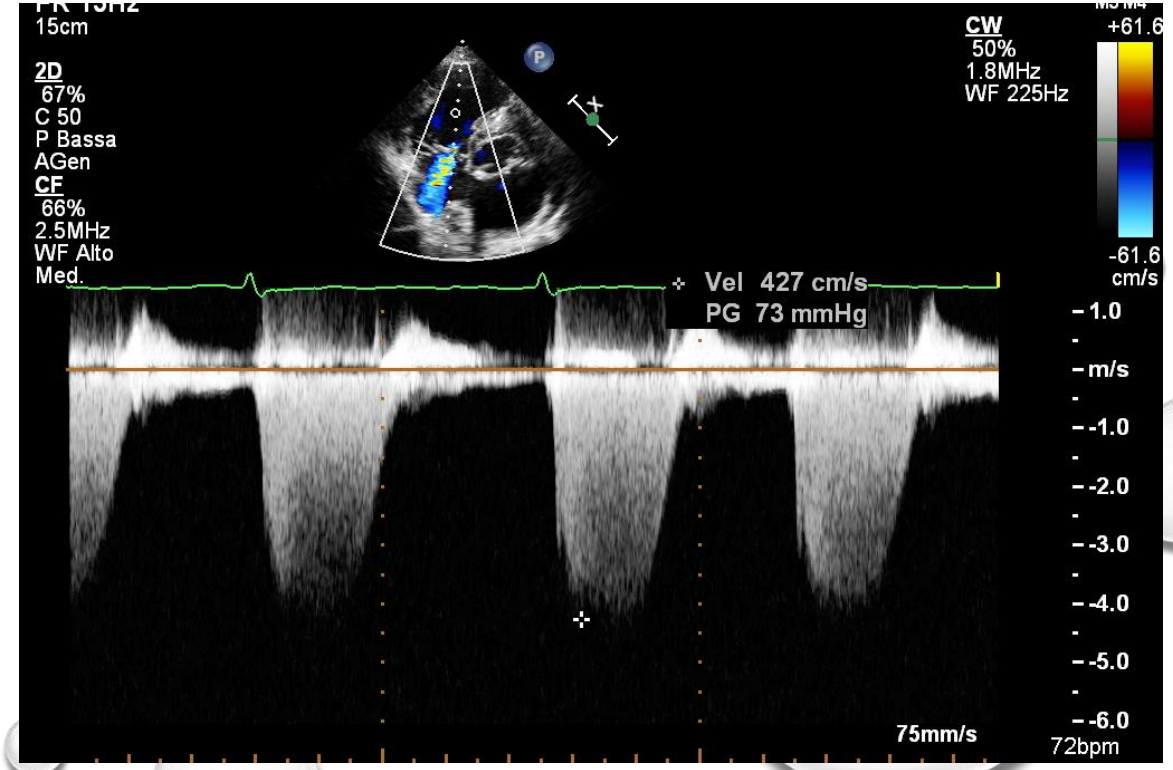
ECO POST VALVOLAZIONE



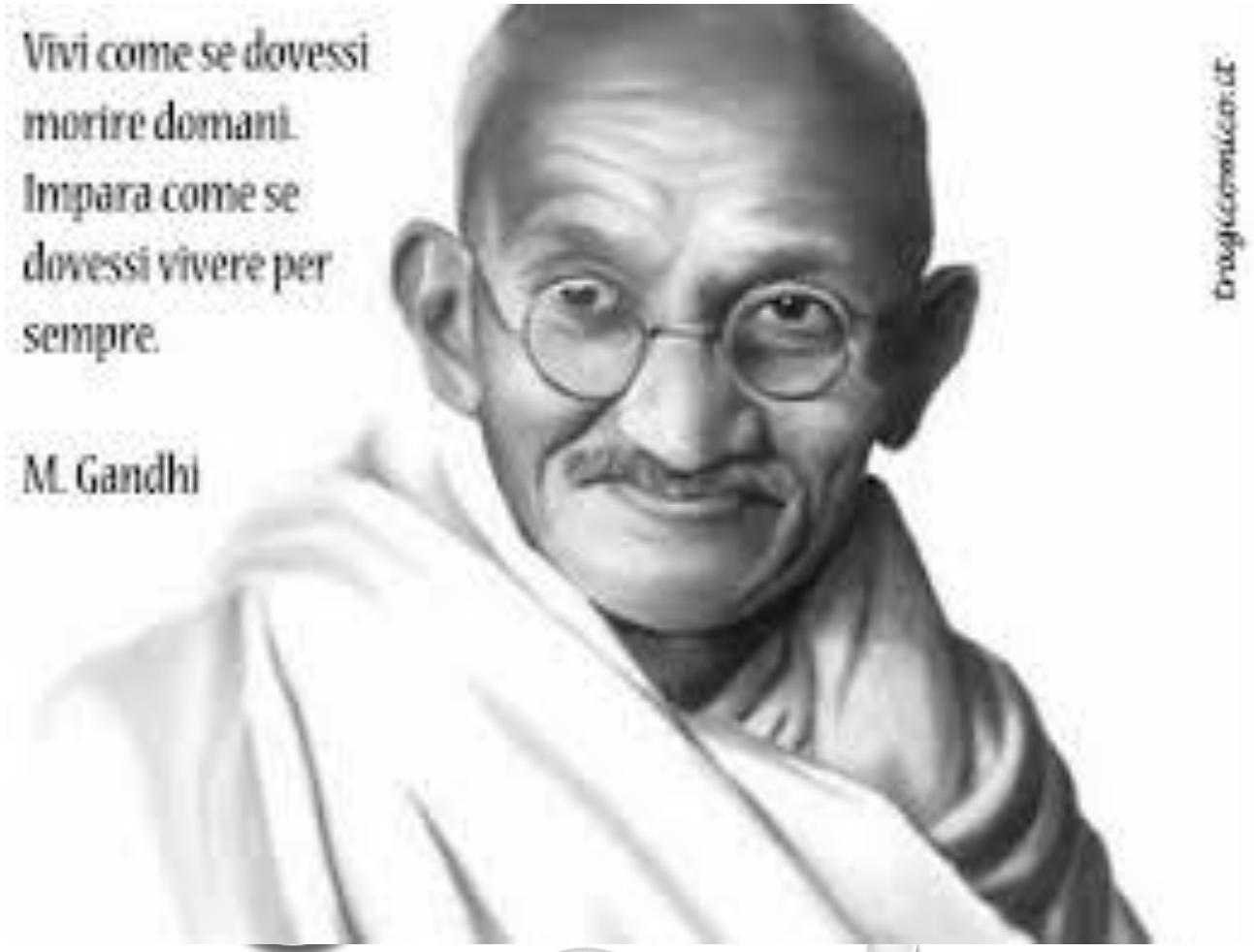
ECO POST VALVOLAZIONE





In hindsight…..

- Valutazione ambulatorio IP
- Terapia con anti-ipertensori polmonari
- Programmato restudio per RVP e reattività



In hindsight…..