

# Predictors of outcome in PPH

## Which echo parameters?

Right ventricle systolic pressure alone is not enough because:

1. After treatment the reduction of pulmonary systolic pressure is minimized by the increase in cardiac output (p=0.28)
2. Doppler tends to underestimate pulmonary arterial pressure (-  $11 \pm 2$  mm Hg) compared to invasive measurements in multicentre trials (- 20 mmHg in 31% of patients)

1. Galiè, JACC 2003;41:1380

2. Hinderliter, Circulation 1997;95:1479

# Experience of University of Bologna

**Echo parameters** related with survival that reached a statistical significance in 121 patients with idiopathic PPH:

## Univariate analysis

- |  |           |
|--|-----------|
| 1. Area of of color jet of tricuspid regurgitation     | p = 0.004 |
| 2. Right ventricle end-systolic area                   | p=0.02    |
| 3. Right ventricle Tei index                           | p=0.04    |
| 4. Moderate to severe pericardial effusion (score 3-4) | p=0.05    |
| 5. Right ventricle end-diastolic area                  | p=0.05    |

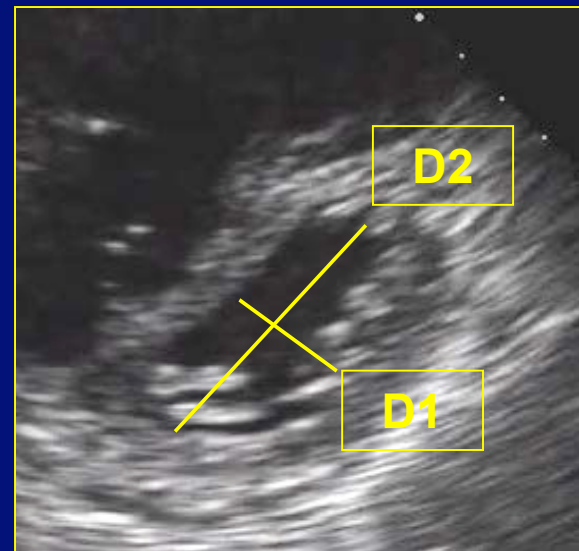
## Cox stepwise regression analysis

- |  |                  |
|--|------------------|
| 1. <u>Area of color jet of tricuspid regurgitation</u> | <u>p = 0.006</u> |
| 2.Right ventricle Tei index                            | p=0.04           |

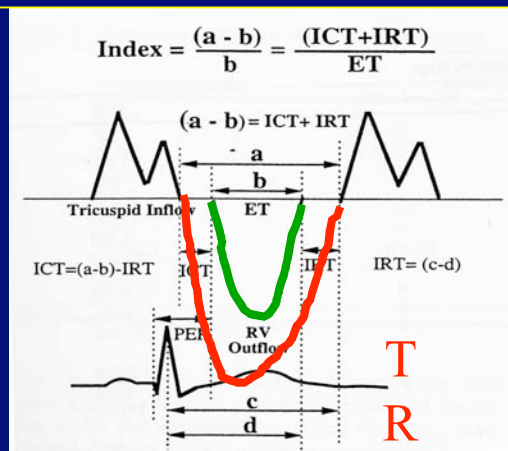
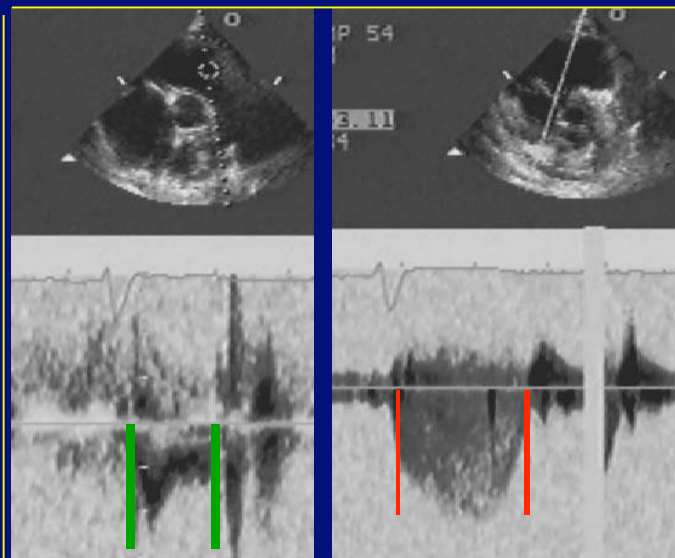
# Echo predictors of bad prognosis in PPH



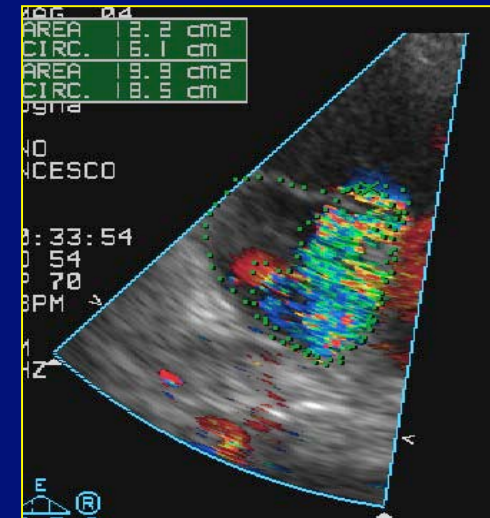
Pericard. eff. > 1 cm



D2 / D1 > 1.8



TEI index > 0.88



jet area > 5.5 cm<sup>2</sup>