

English heart club

# To close or not to close - not only about boundaries

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# ANAMNESIS MORBI

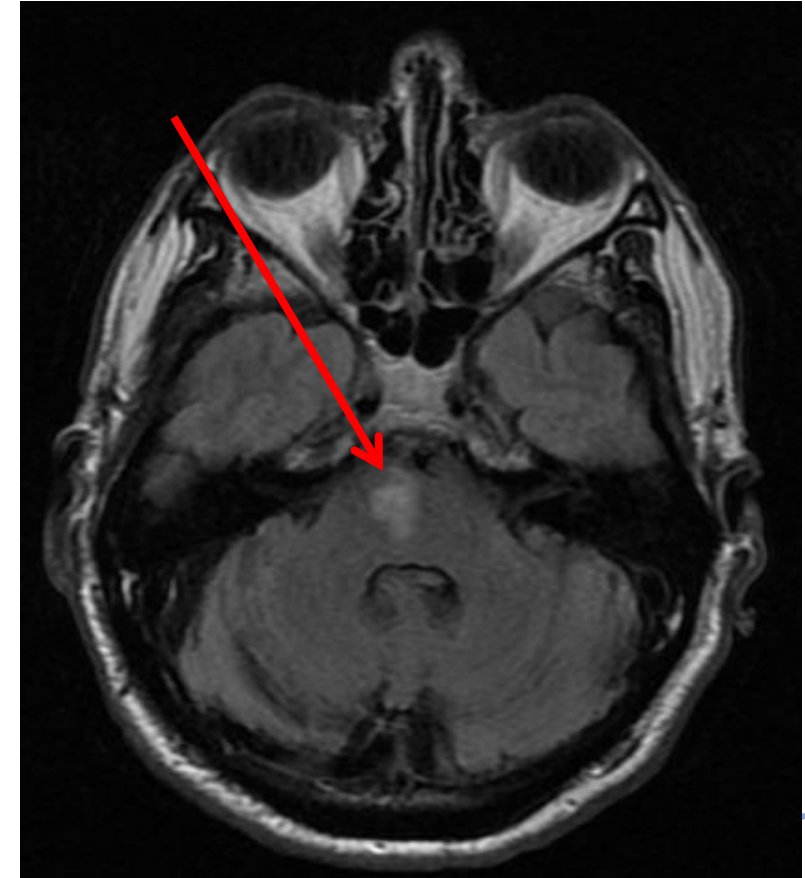
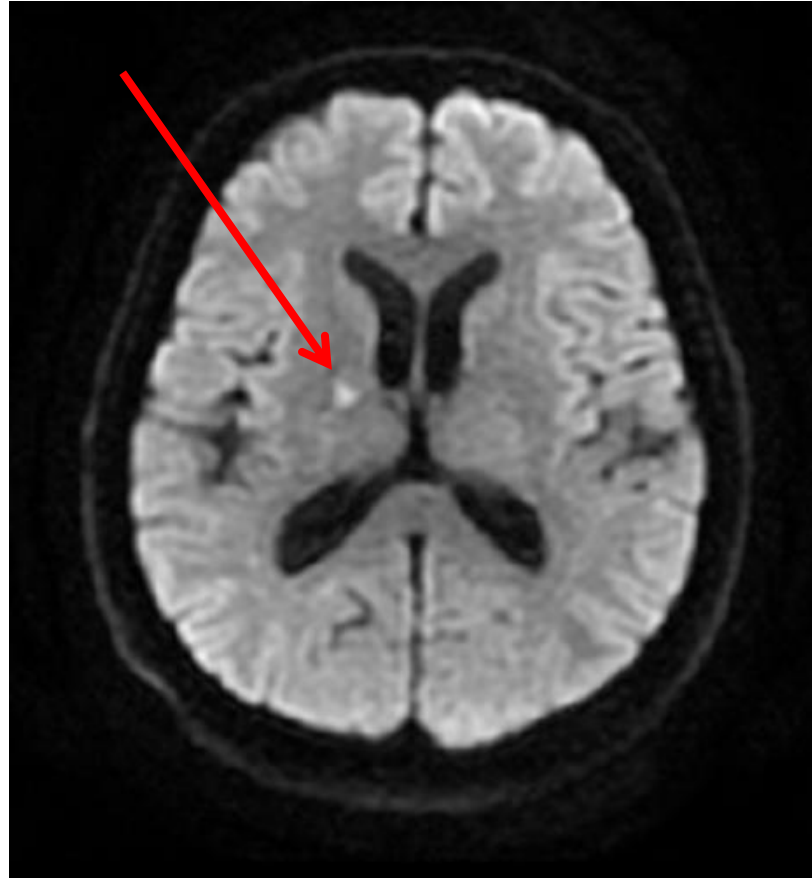
Male, 61 y.o.

- Left leg weakness
- Dysarthria
- Gait disturbance
- Left hand hypoesthesia
- Status on admission - NIHSS 5 points
- Intravenous systemic thrombolysis



# MRI 9 DAYS LATER

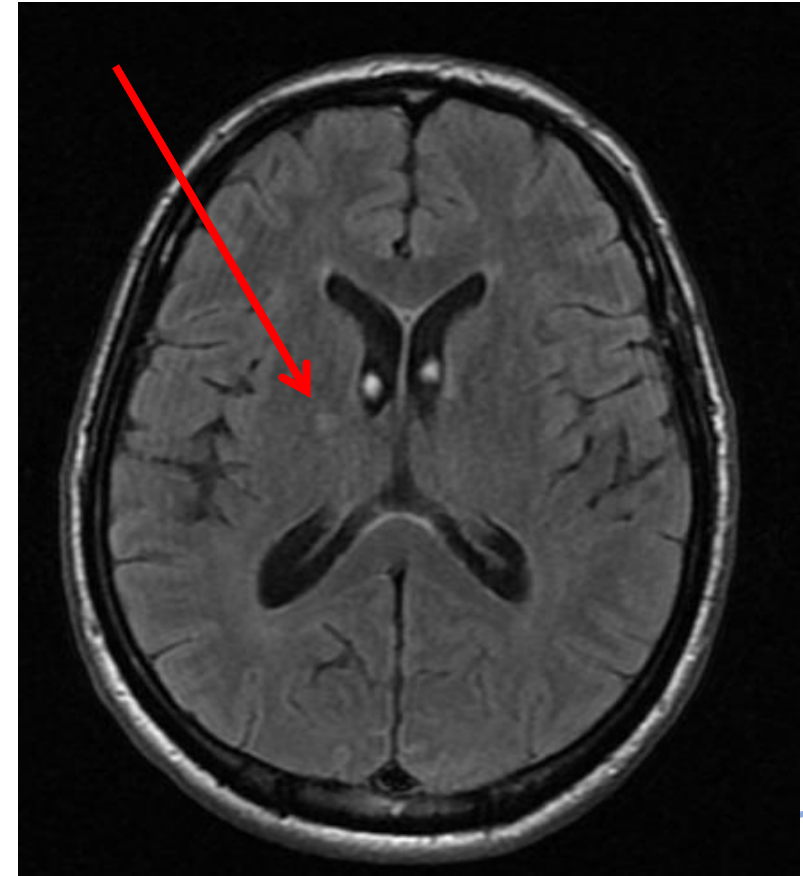
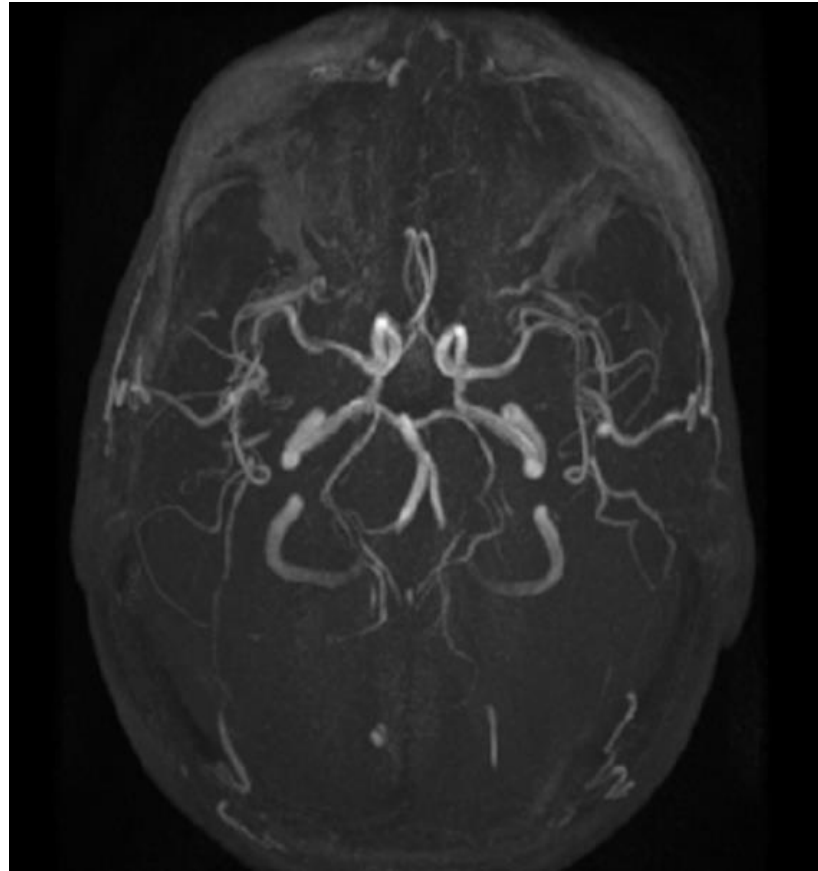
Acute ischemic lesions in the right hemisphere



DW  
I

# MRI 9 DAYS LATER

Acute ischemic lesions in the right hemisphere



FLAIR  
R

# OUR PLAN

## Atherothrombotic ?

- Carotid arteries stenosis <40% both sides
- Local calcified plaque of ICA on the CT
- MR-angiography - normal
- Aortic arch without features

## Lacunar ?

- The target blood pressure were achieved
- Constant antihypertensive therapy
- First lesion more than 1.5 cm,
- Absence of lesions due to lacunar strokes

## Cardio embolic ?

- No atrial fibrillation (24 hours ECG)
- No hypokinesis zone, normal atrial size
- No intracardiac thrombi, valve lesions
- EF more than 30%

## Other causes ?

- Standard coagulogramm - normal
- General blood analysis - normal

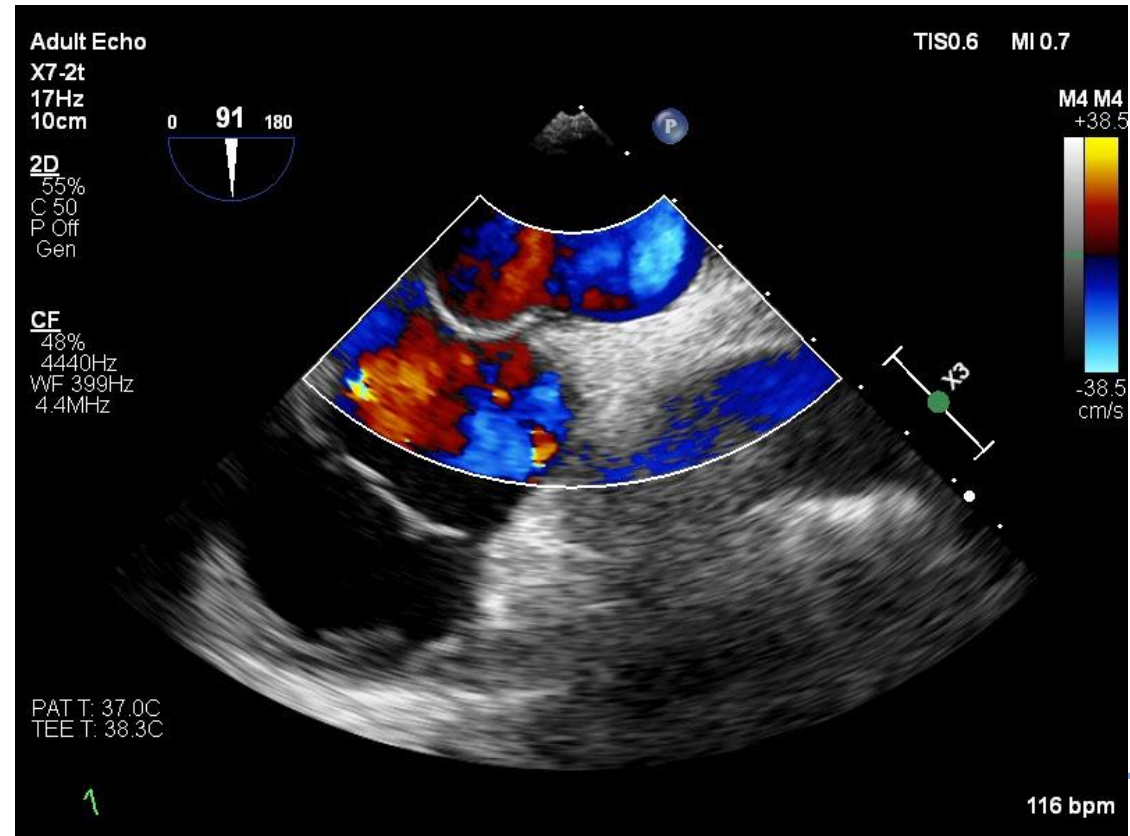
PFO - related,  
cryptogenic

Multiple signals on the transcranial  
Doppler with bubbles

# TRANSESOPHAGEAL ECHOCARDIOGRAPHY

Patent foramen ovale

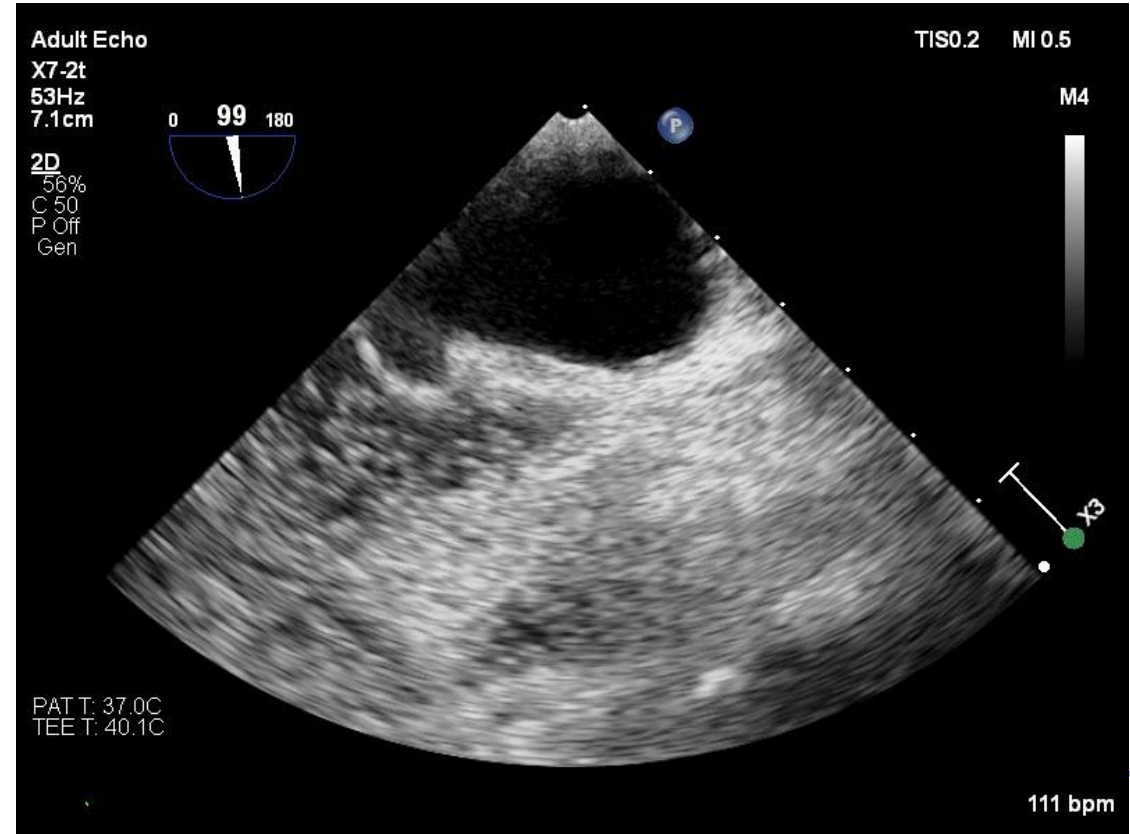
2 mm with atrial septal aneurism



# TRANSESOPHAGEAL ECHOCARDIOGRAPHY

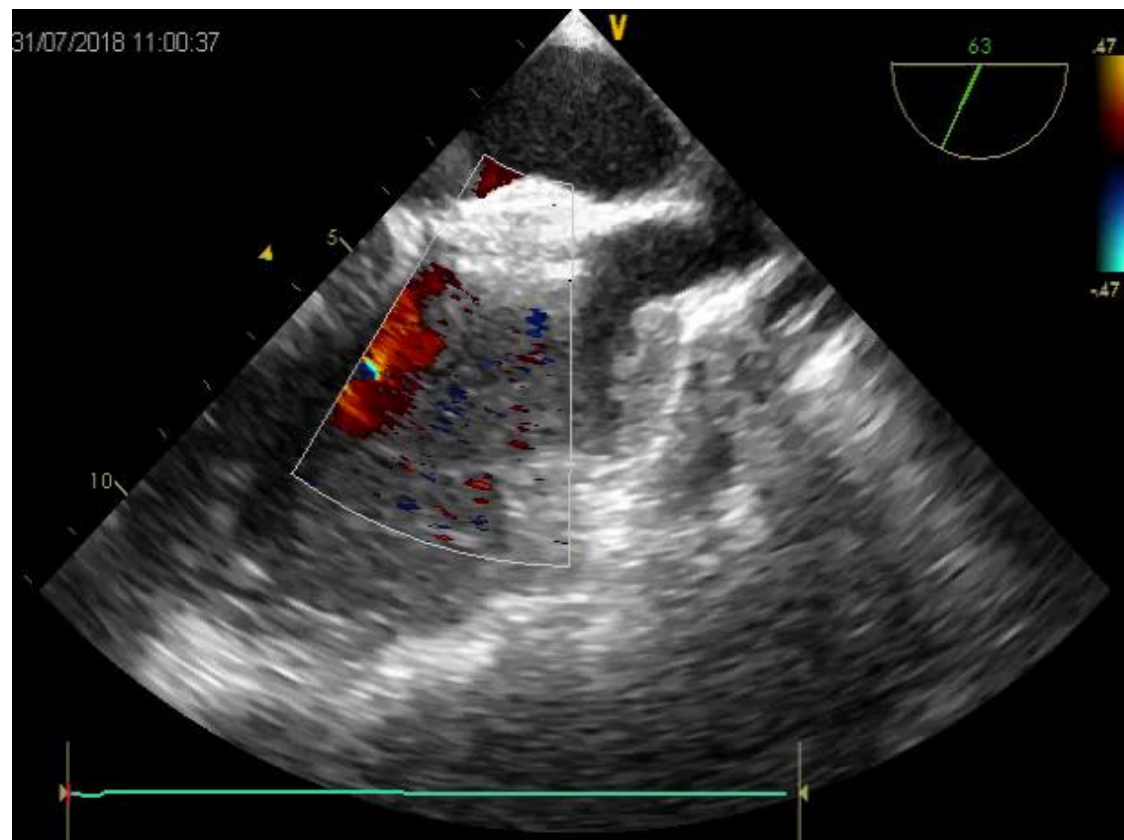
**Severe shunt**

> 25 microbubbles in the left atrium



# PFO CLOSURE

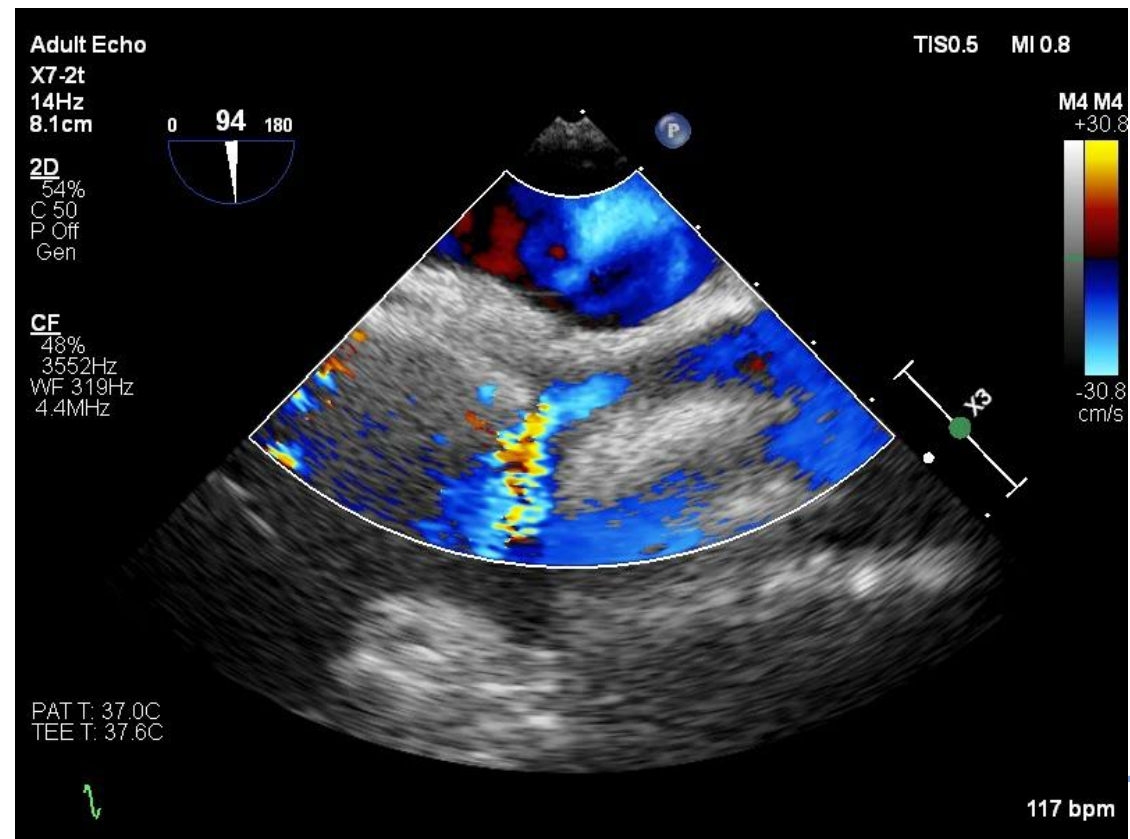
PFO device 23/25  
mm





# GREAT OUTCOMES

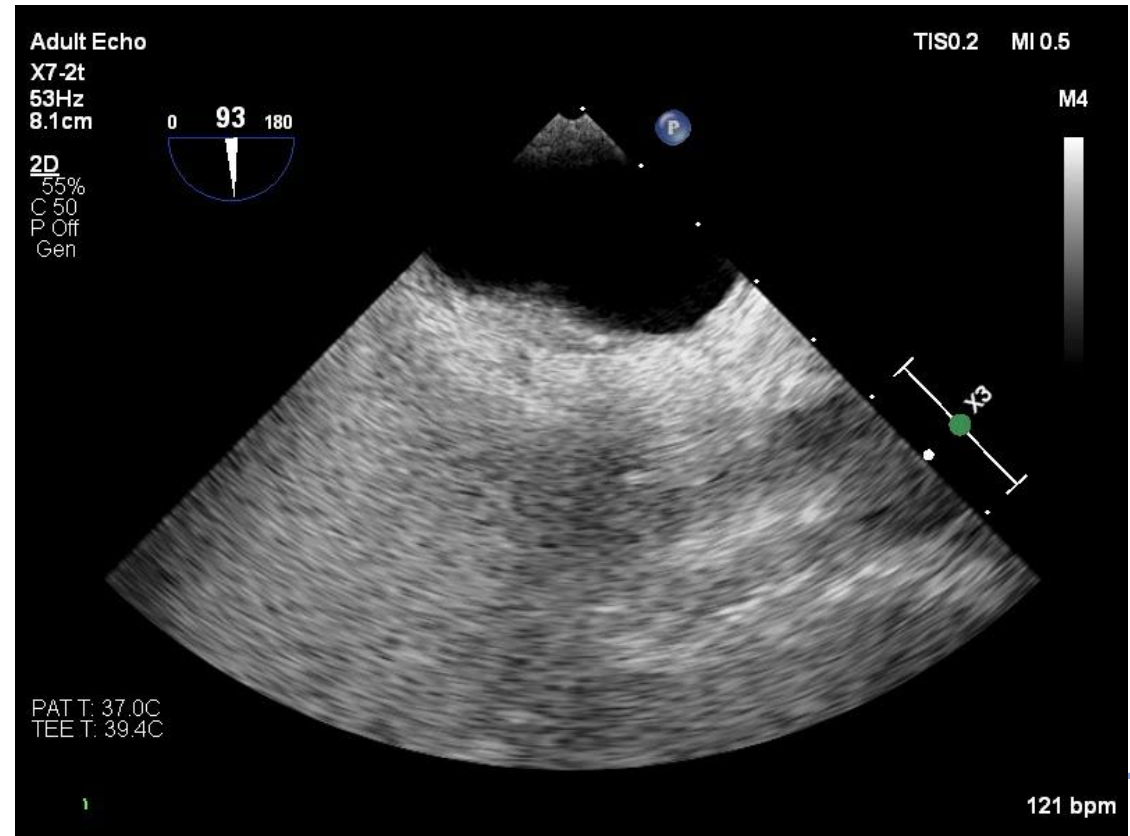
No leaks



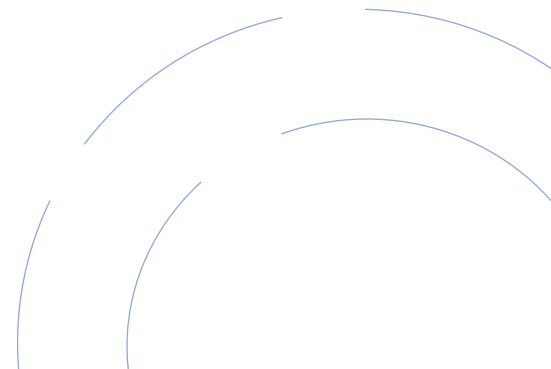
# GREAT OUTCOMES

No bubbles

A year free from events



# Day-long searching



# ANAMNESIS MORBI

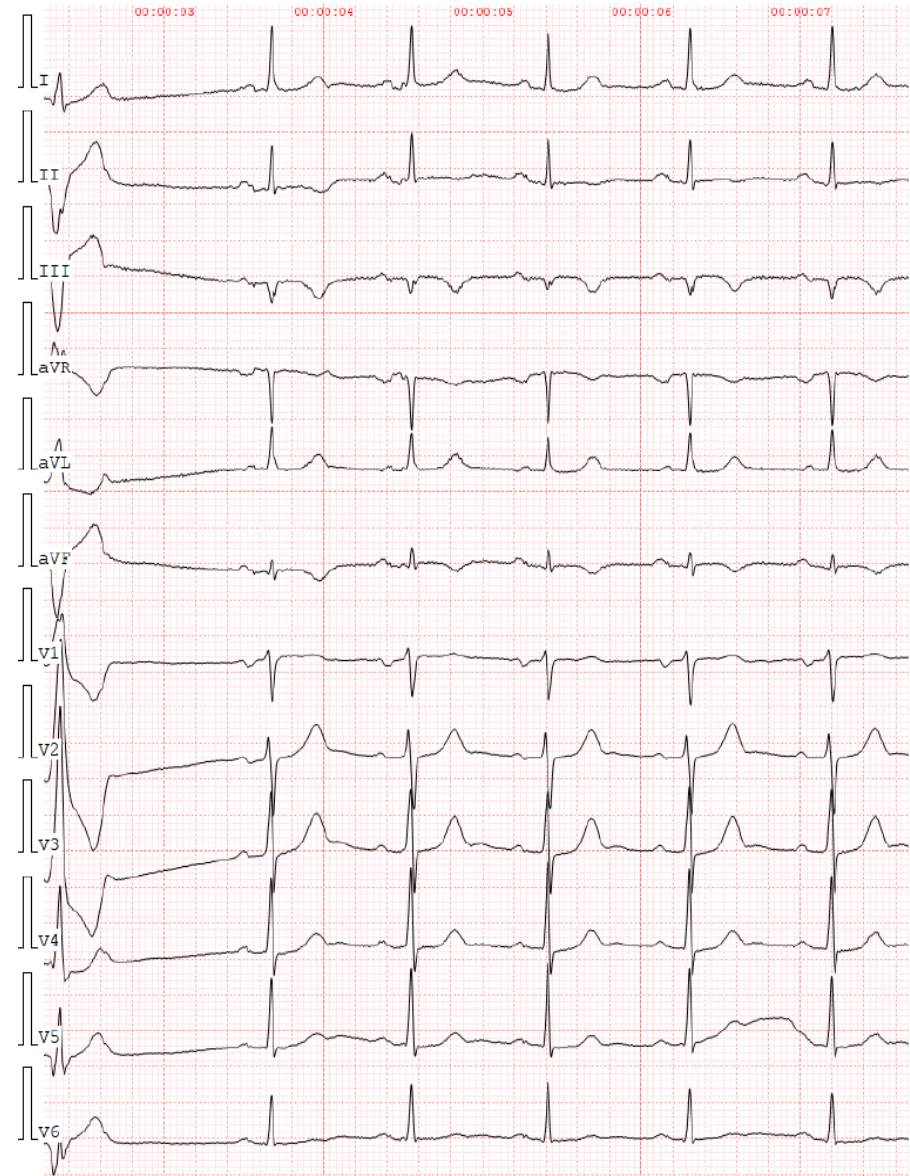
Female, 67 y.o.

Acute episode of chest pain  
radiating to her left arm

Dyspnea

**ST** — elevation in II, III, AVF

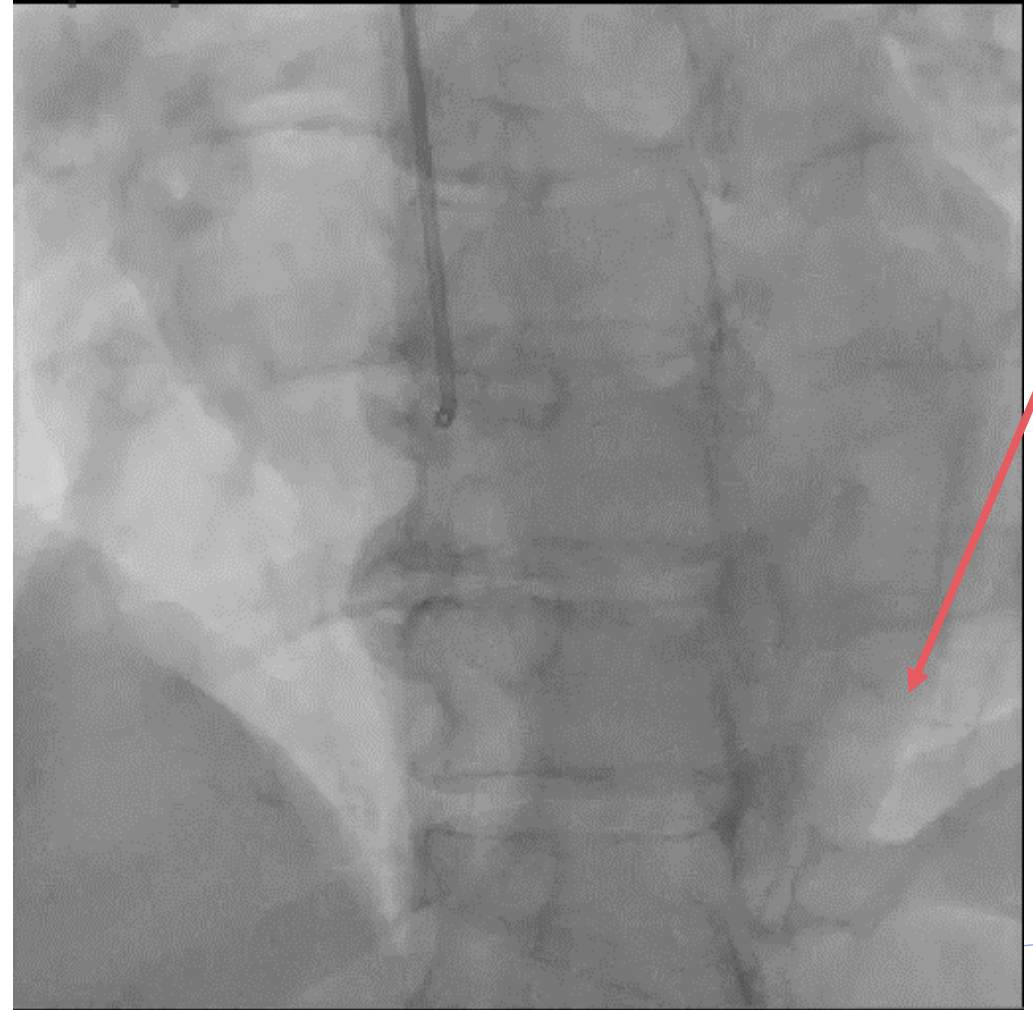
**Troponin HS** — 1214 ng/ml



# CORONARY ANGIOGRAPHY



40% left main stenosis



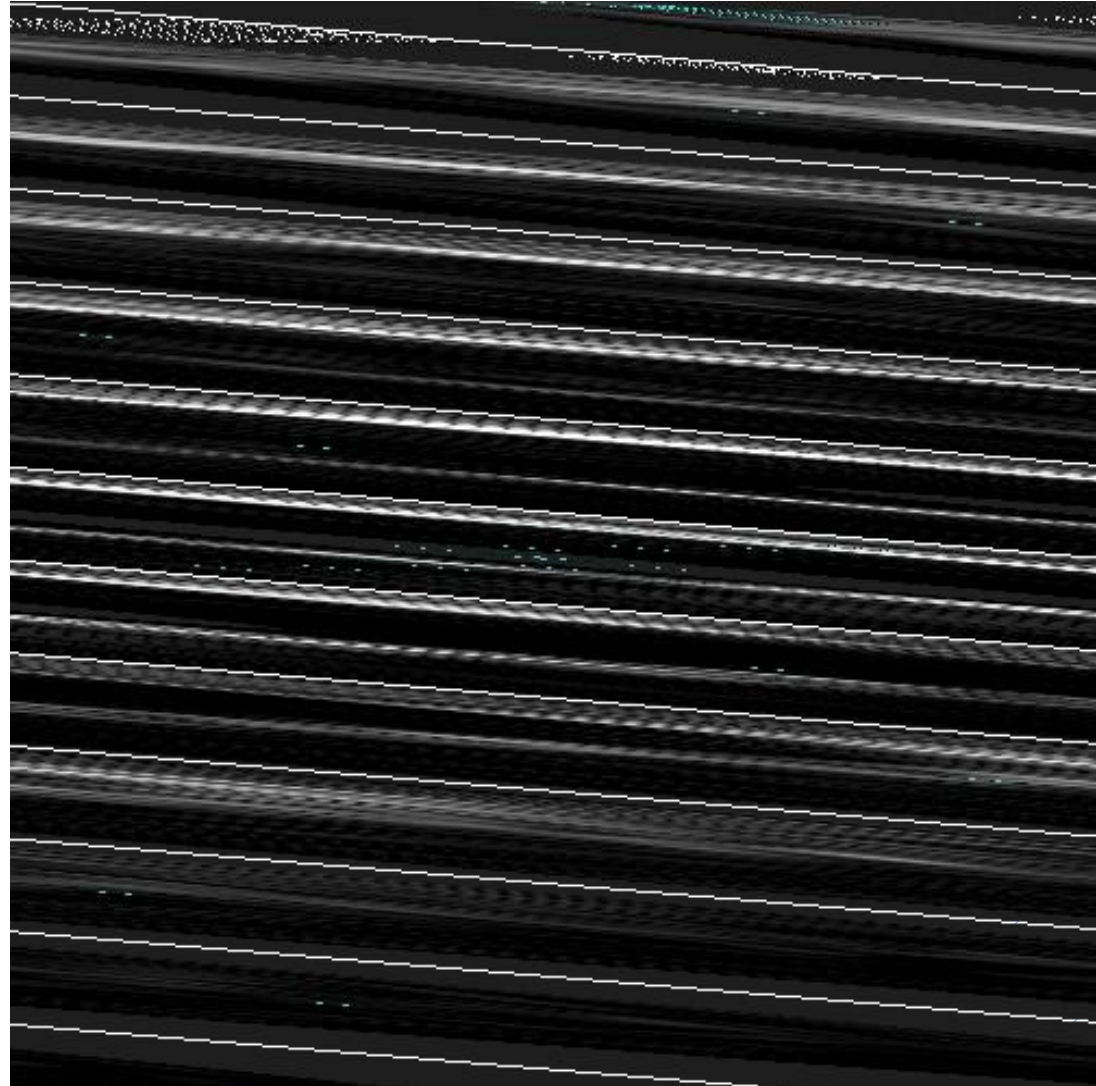
Small margin branch occlusion

# SOMETHING IN THE LEFT MAIN?

## IVUS

Minimum lumen area - 7,7 mm<sup>2</sup>

No dissection

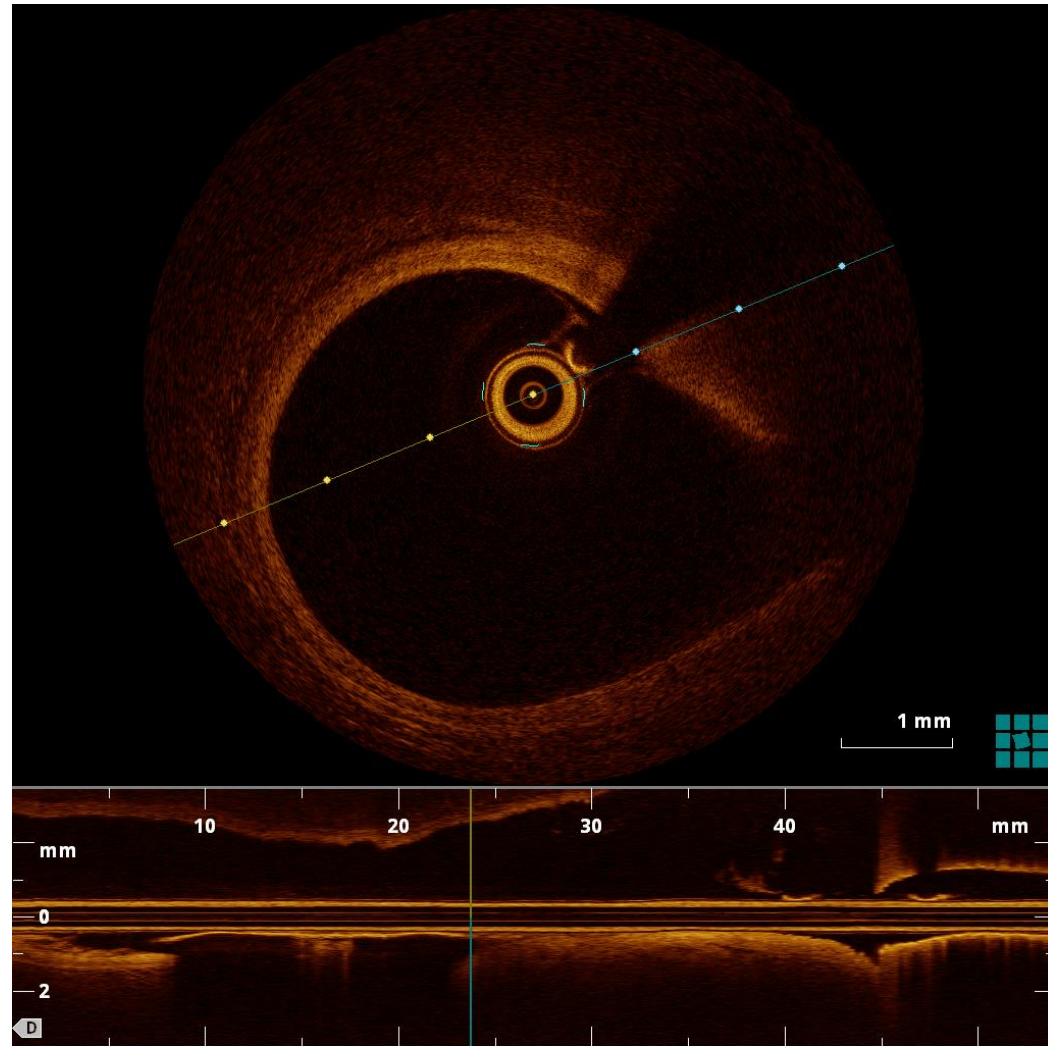


# CLOSELY INSIDE

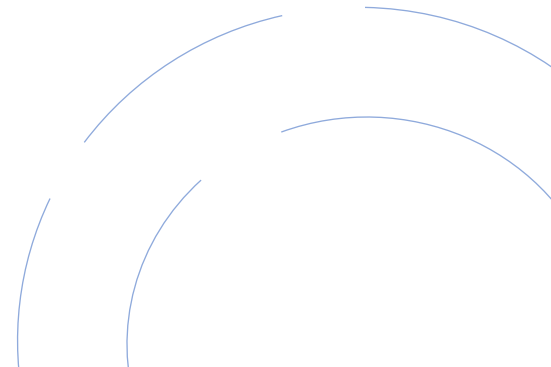
## OCT

No thrombus formation

No dissection



# WHERE IS THE REASON ?





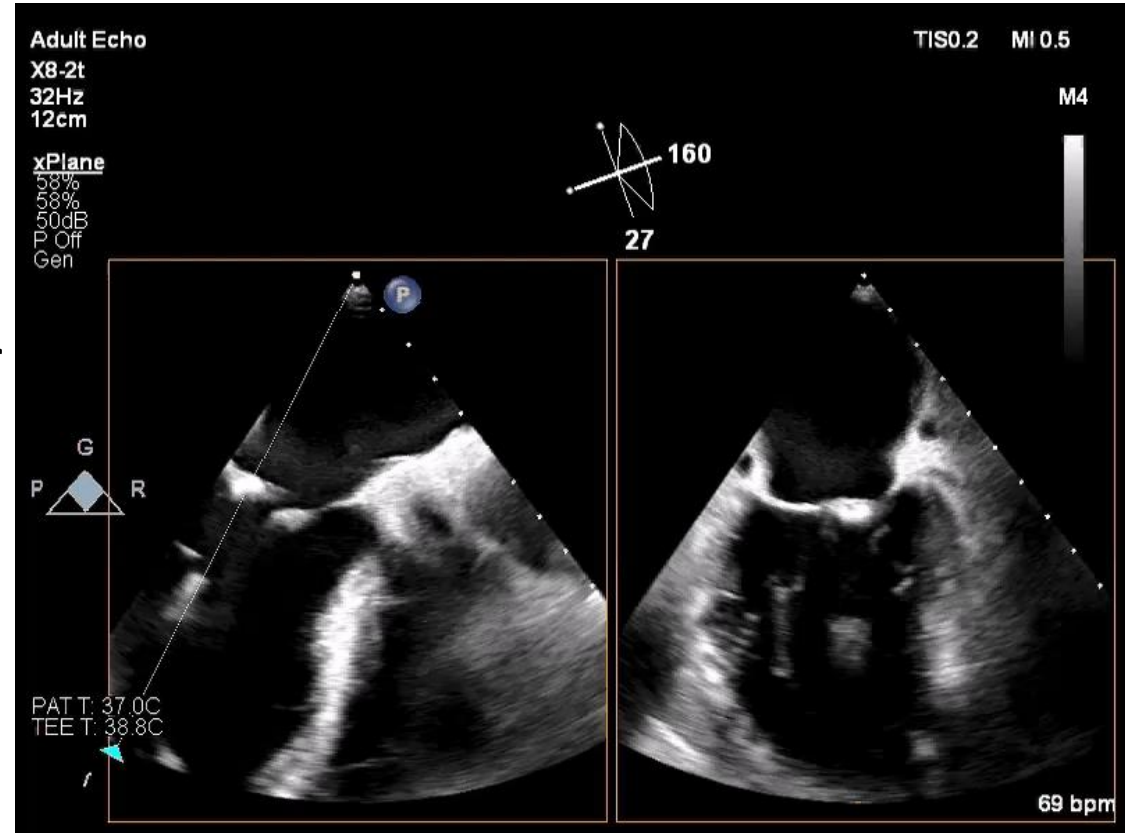
# ANAMNESIS MORBI

- Acute ischemic stroke a month earlier
- Ischemic lesions on MRI in the left occipital lobe
- Autoimmune thyroiditis
- Obesity 3 stage
- History of the deep vein thrombosis
- Calcinate on the posterior leaflet of mitral valve without floating
- No atrial fibrillation (72 hours ECG )



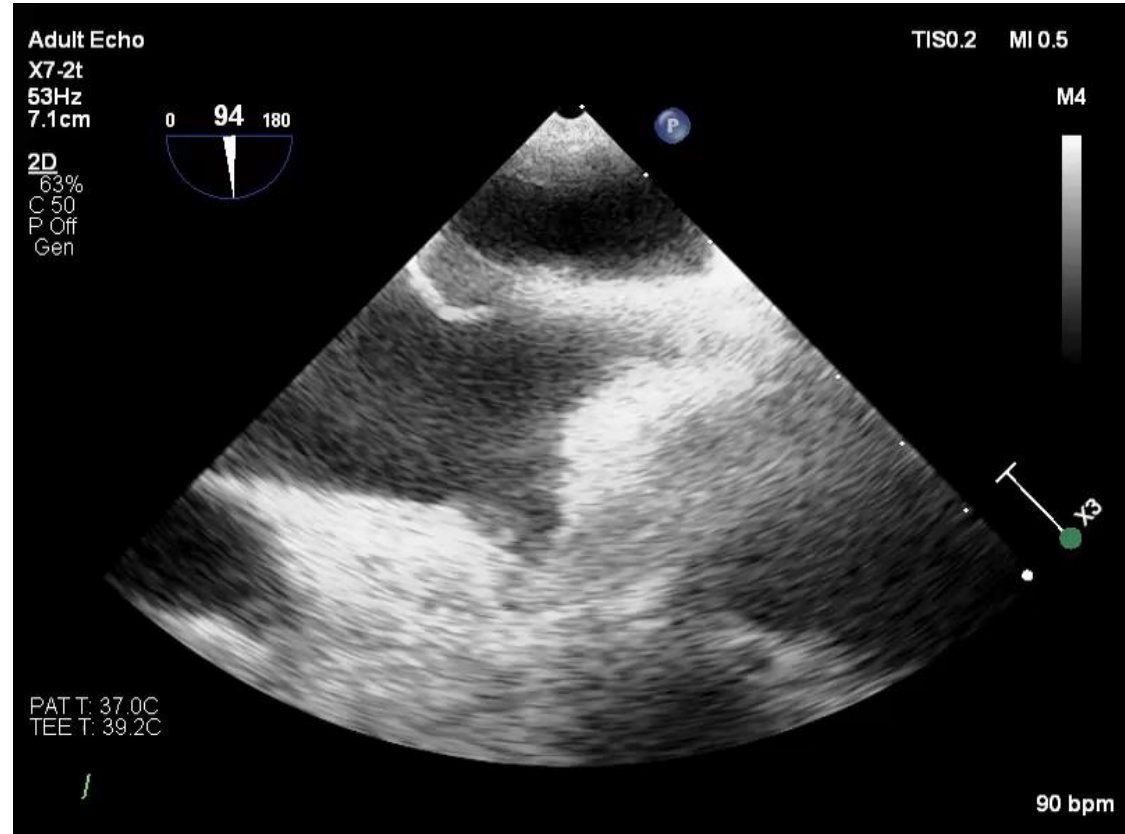
# TRANSESOPHAGEAL ECHOCARDIOGRAPHY

Calculate 0.7 x 0.5 cm on the posterior leaflet



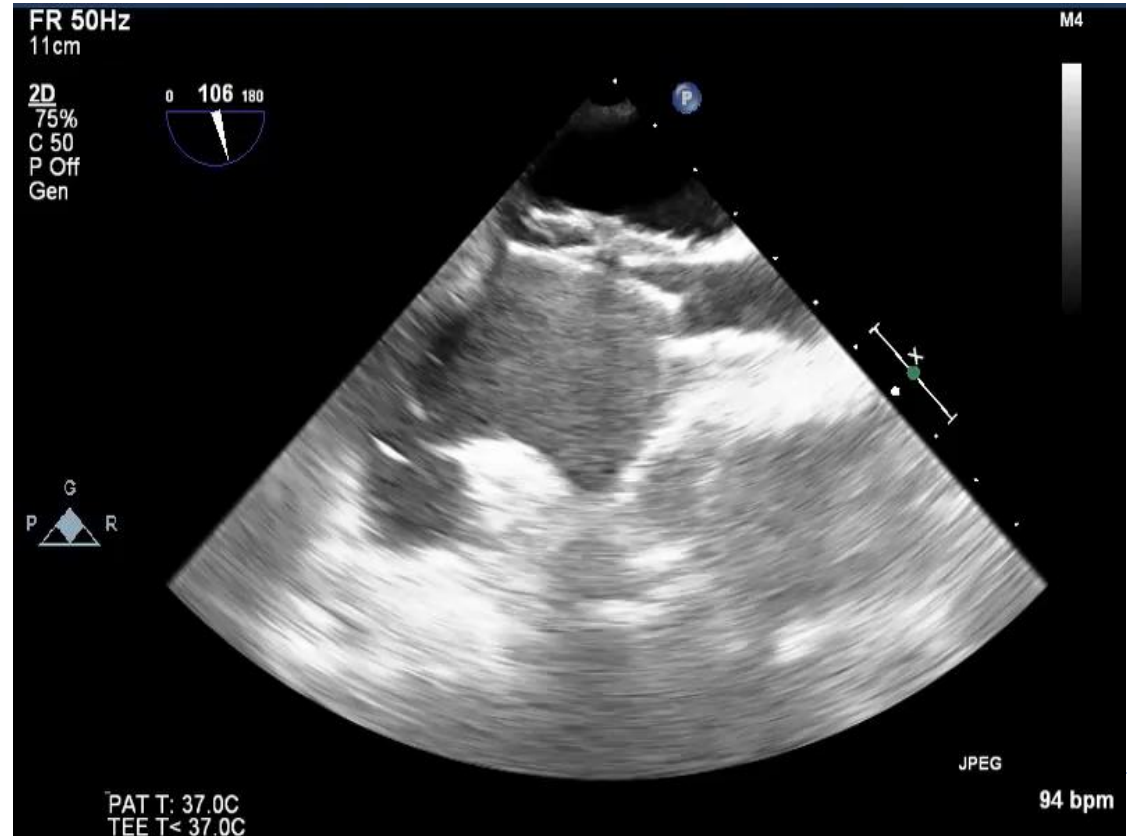
# HERE WE GO!

Patent foramen ovale  
3 mm with atrial septal aneurism



# PFO CLOSURE

UNI device 28,5 mm



# CONCLUSION

Paradoxical embolism in PFO patients may reach other vascular regions except of cerebral arteries

ACS due to paradoxical coronary embolism should be examined and managed carefully

Transesophageal echocardiographic plays a key role

In a patient over 60 years, a careful evaluation of the topographical characteristics of the stroke, atherosclerotic risk factors, cardiac rhythm, septum anatomy, lower limb veins and haemo-coagulative balance help to assess the relative risk of a cryptogenic stroke compared to an ischaemic event from other causes.

Although the prevalence of clinical features associated with stroke from known causes increases with age, the same happens with factors favoring paradoxical embolism through a PFO