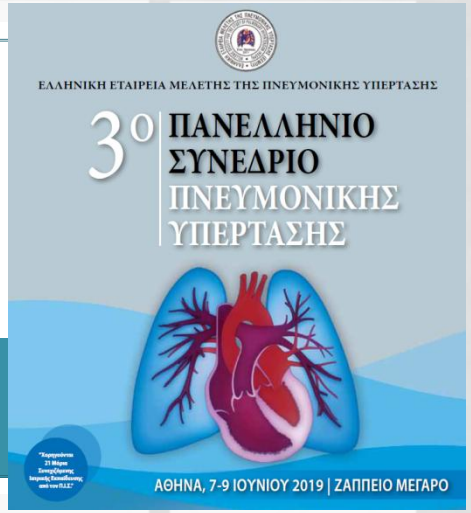
ΠΑΡΟΥΣΙΑΣΗ ΠΕΡΙΣΤΑΤΙΚΟΥ

ΔΗΜ. ΤΣΙΑΠΡΑΣ MD FESC



ΠΑΡΟΥΣΙΑΣΗ ΠΕΡΙΣΤΑΤΙΚΟΥ

- Ανδρας 56 ετών παραπέμπεται λόγω πνευμονικής υπέρτασης για περαιτέρω διερεύνηση
- ΑΤΟΜΙΚΟ ΑΝΑΜΝΗΣΤΙΚΟ
- Χρόνια αρθρίτιδα χωρίς σαφή διάγνωση αυτοάνοσου νοσήματος
- Κρίσεις βρογχικού άσθματος σε μικρή ηλικία
- Παροξυσμική κολπική μαρμαρυγή (ιδιοπαθής) > ablation προ 3 μηνών.

ΣΥΜΠΤΩΜΑΤΟΛΟΓΙΑ

- **Οξεία δύσπνοια κατά τη διάρκεια ελεύθερης κατάδυσης**
- Νοσηλεία με διάγνωση «οξέος πνευμονικού οιδήματος» χωρίς ανίχνευση καρδιακής αιτιολογίας
- Βελτίωση με διουρητικά και χορήγηση οξυγόνου

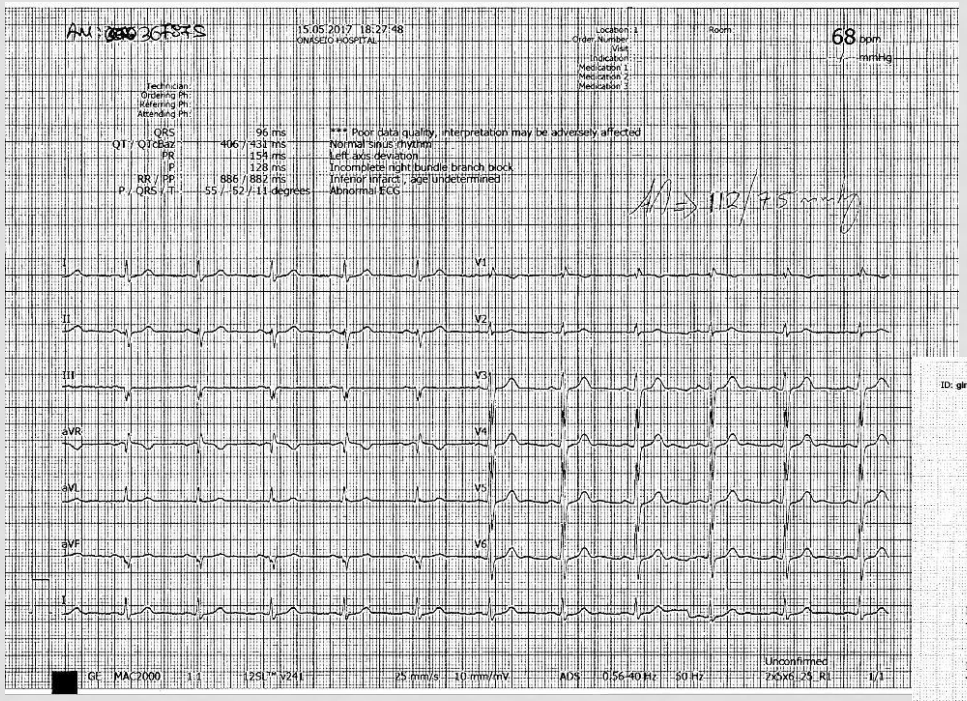
- Εκτοτε αναφέρει ραγδαία επιδείνωση με λειτουργική κλάση στη διακομιδή του WHO III-IV

ΕΥΡΗΜΑΤΑ

- ΚΛΙΝΙΚΗ ΕΞΕΤΑΣΗ
- Διάταση σφαγιτίδων
- Ακρόαση καρδιάς: Αύξηση P2 χωρίς φυσήματα
- Μείωση αναπνευστικού ψιθυρίσματος άμφω χωρίς συρρίτοντες

- Α/α Θώρακος: Συλλογή πλευριτικού υγρού άμφω
- Προπέτεια πυλών με εικόνα συμφόρησης

ECG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Ordering Ph:
Referring Ph:
Attending Ph:
QRS 96 ms
QT / QTcBaz 406 / 431 ms
PR 154 ms
P 128 ms
RR / PP 886 / 882 ms
P / QRS / T 55 / 52 / 11 degrees
*** Poor data quality, interpretation may be adversely affected
Normal sinus rhythm
Left axis deviation
Incomplete right bundle branch block
Inferior infarct , age undetermined
Abnormal ECG
I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6
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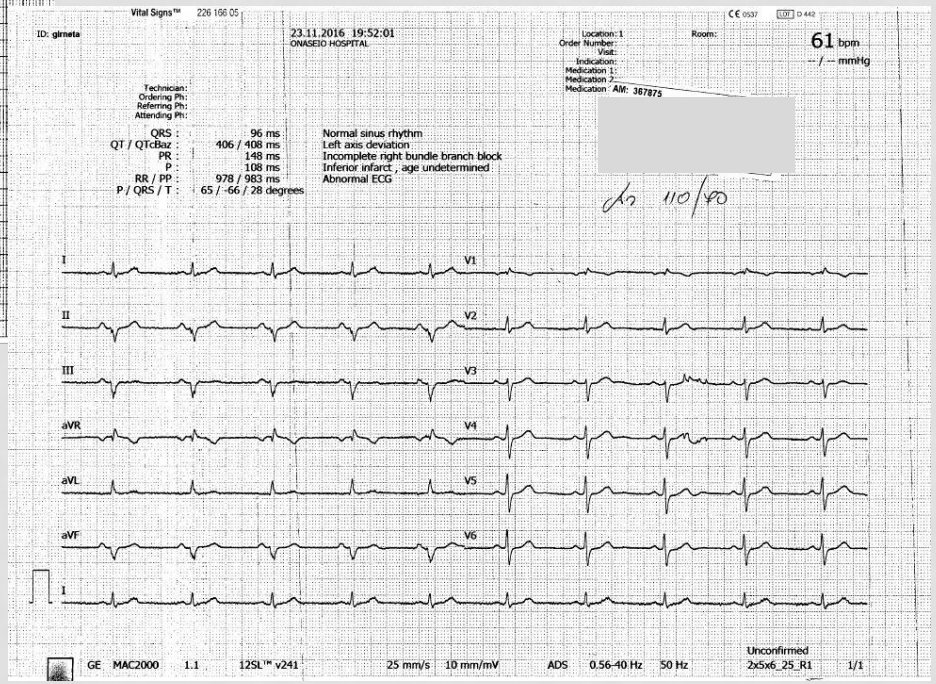
Vital Signs™
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Ordering Ph:
Referring Ph:
Attending Ph:
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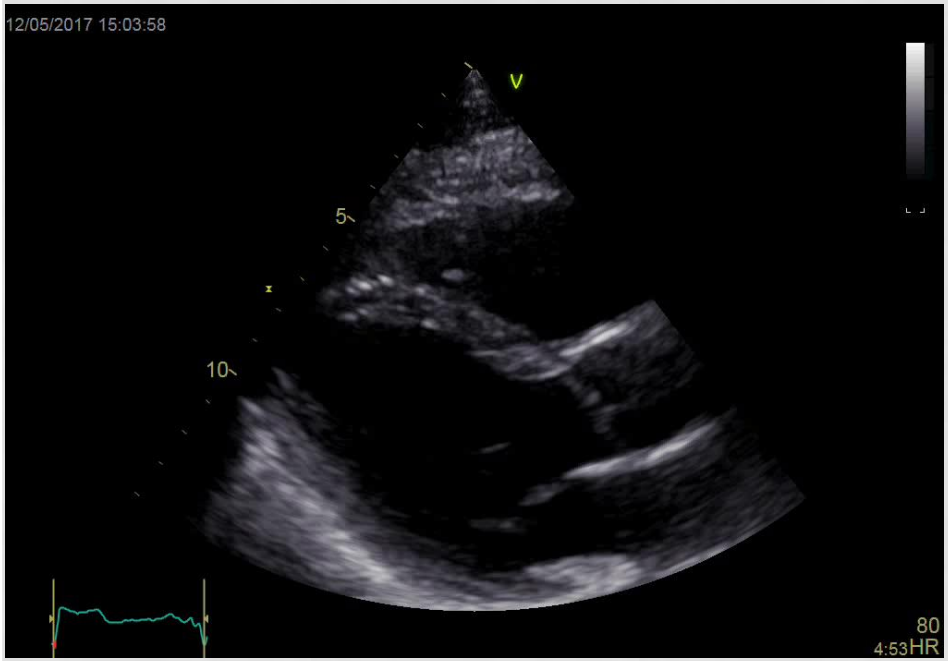
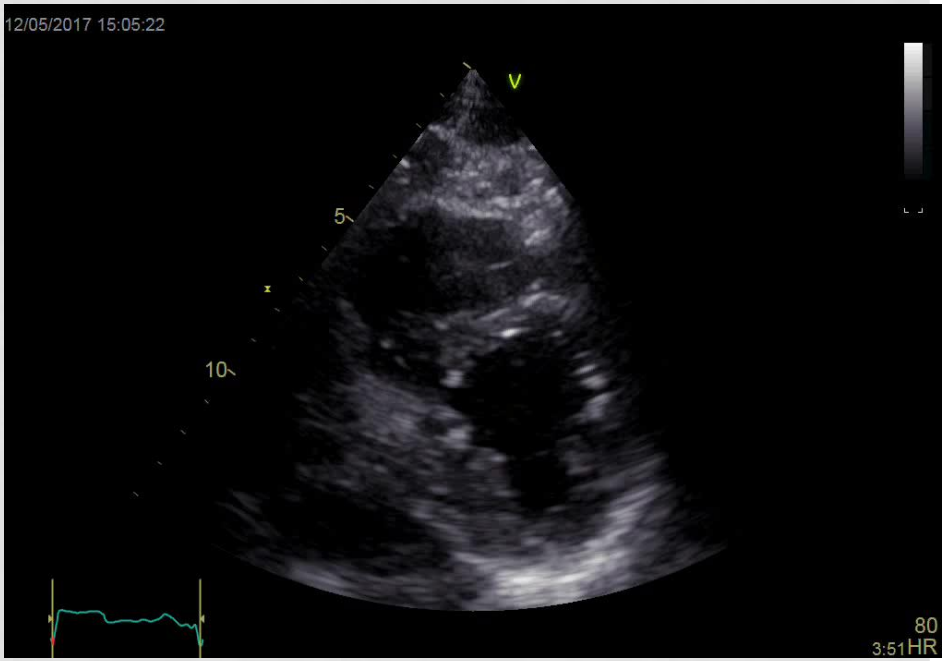
QT / QTcBaz : 406 / 408 ms
PR : 148 ms
P : 108 ms
RR / PP : 978 / 983 ms
P / QRS / T : 65 / -66 / 28 degrees
Normal sinus rhythm
Left axis deviation
Incomplete right bundle branch block
Inferior infarct , age undetermined
Abnormal ECG
I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6
GE MAC2000 12SL™ v241 25 mm/s 10 mm/mV ADS 0.56-40 Hz 50 Hz
Unconfirmed
2x5x6_25_R1

ECHOCARDIOGRAPHY





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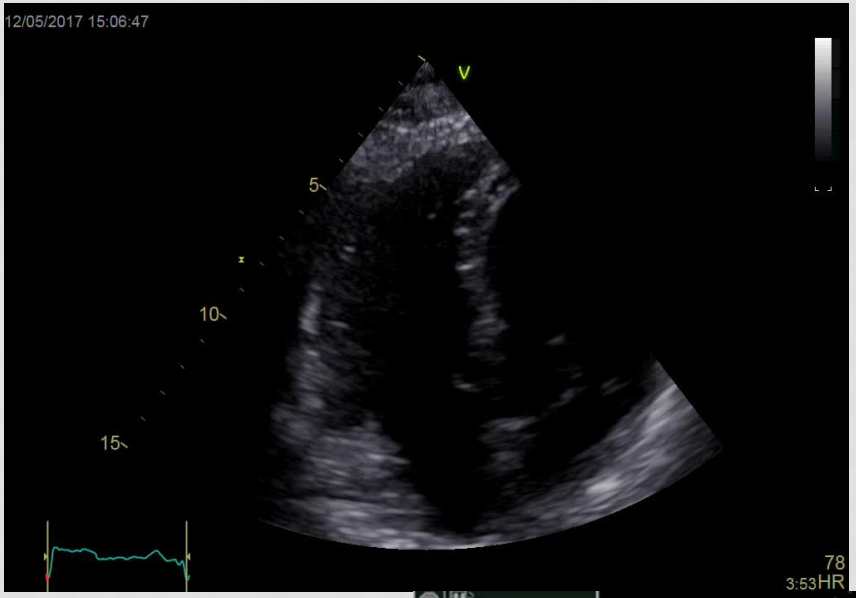
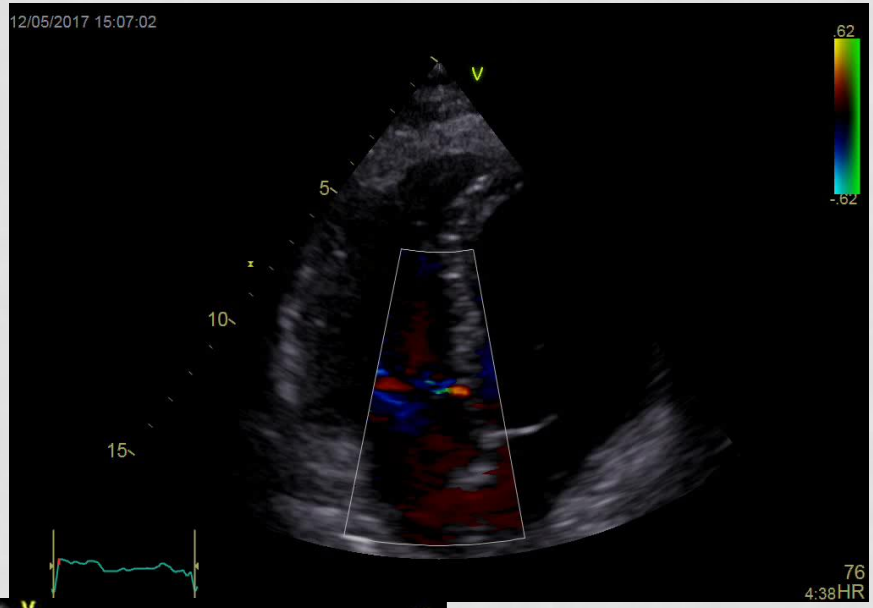
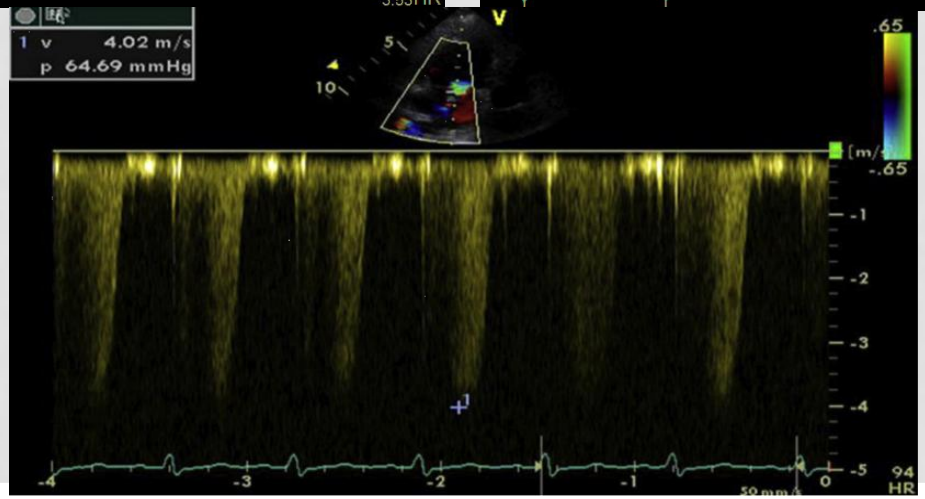






ΔΙΑΦΟΡΙΚΗ ΔΙΑΓΝΩΣΗ

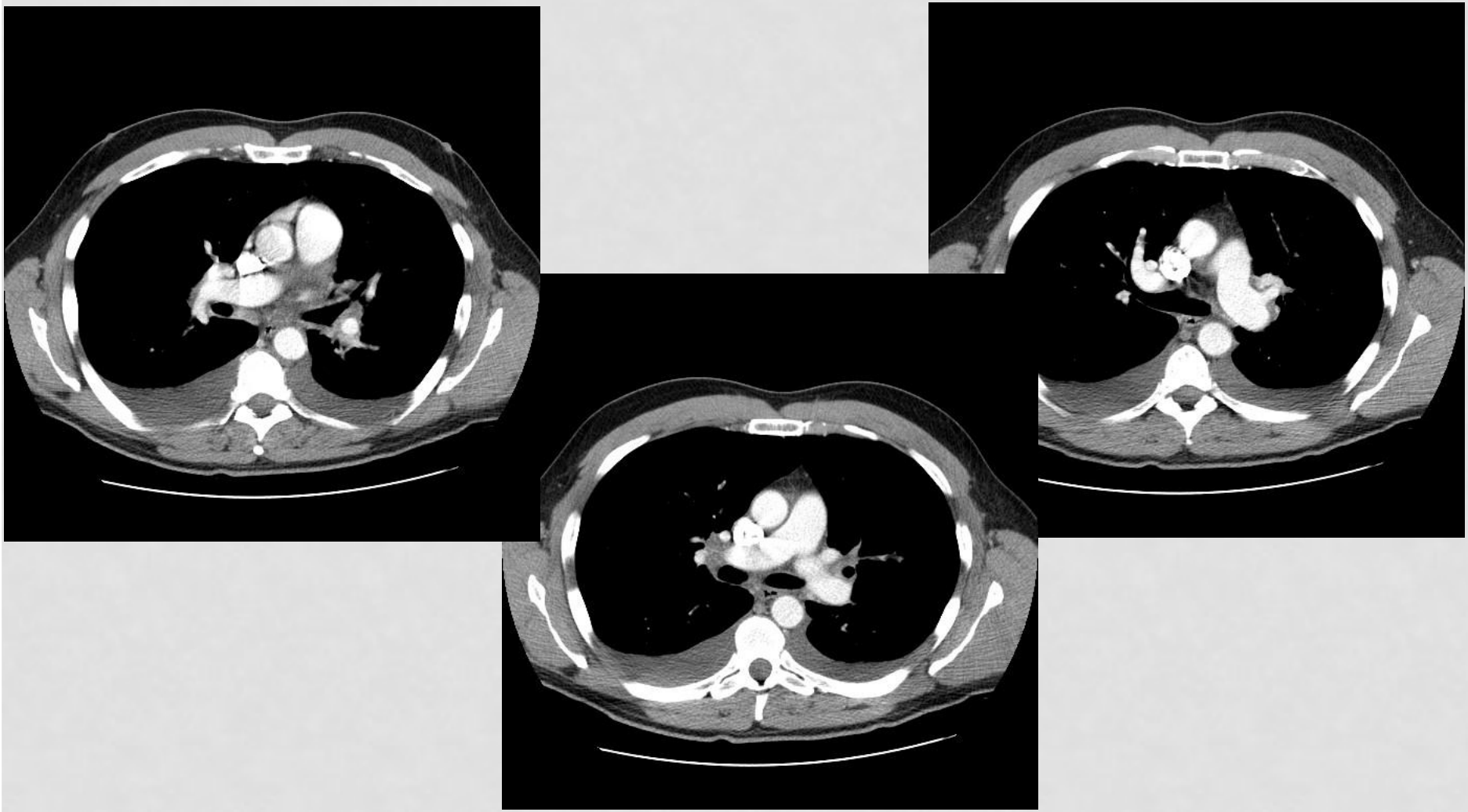
PE ?

PVOD ?

HFpEF ?

ACS ?

CTPA



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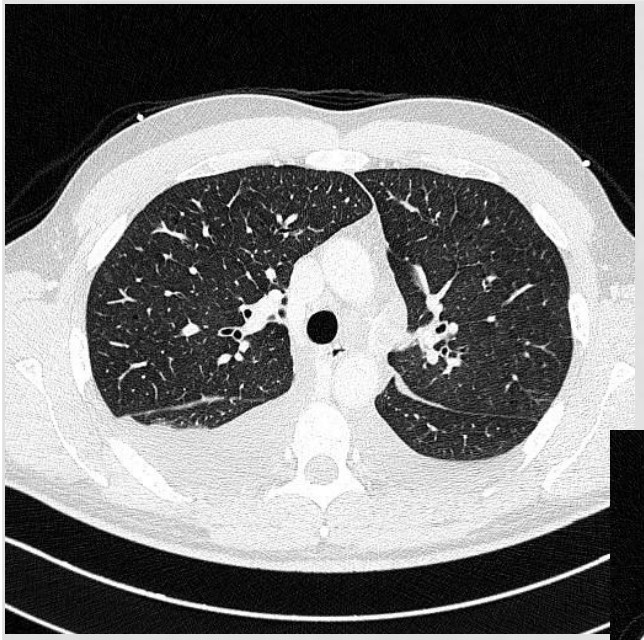

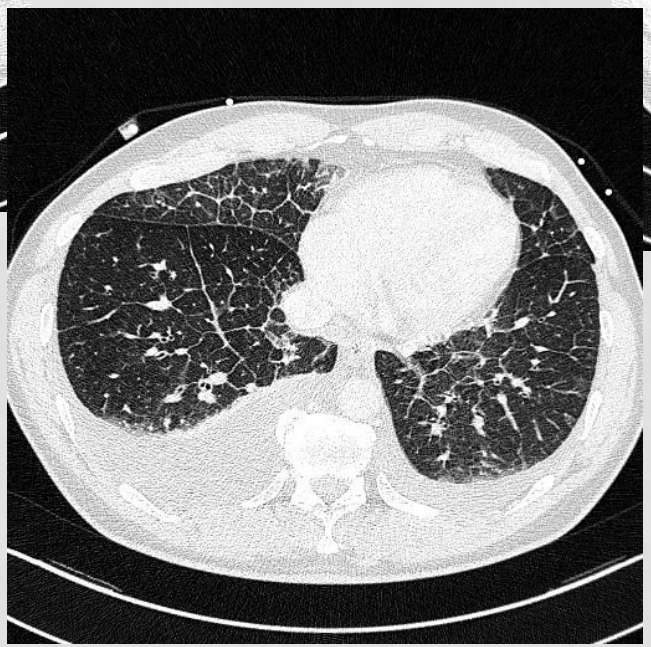

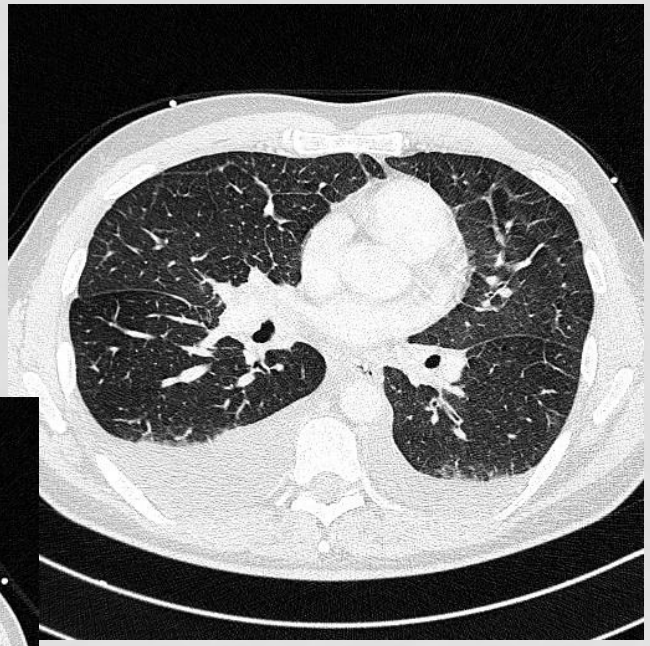

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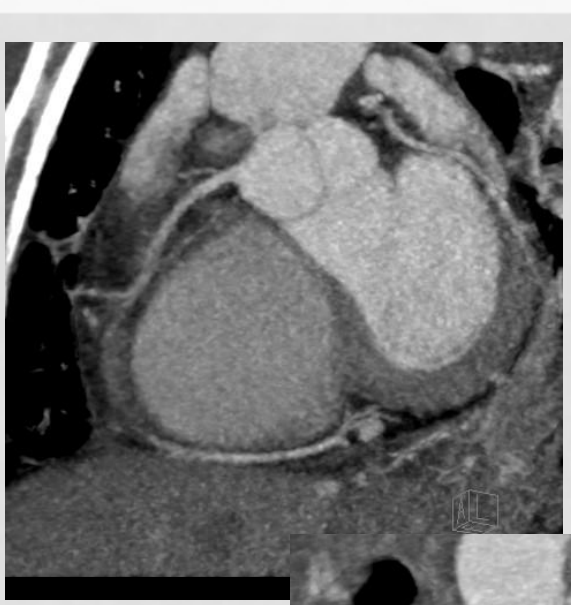
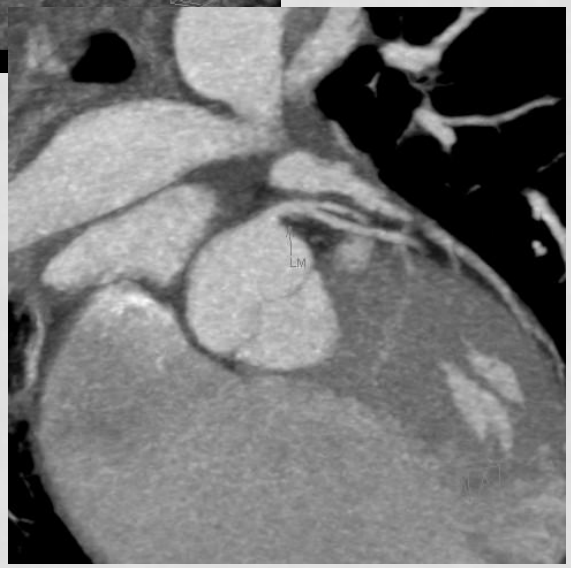
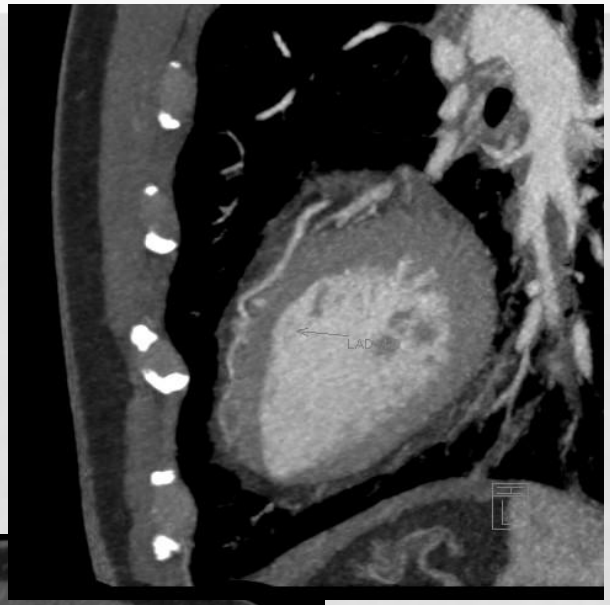
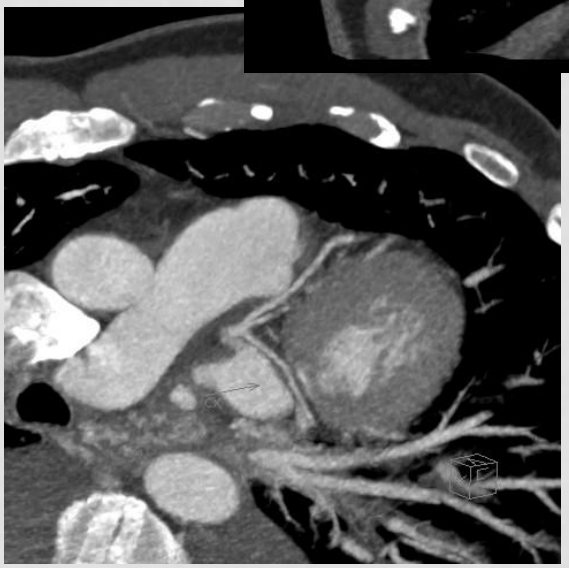
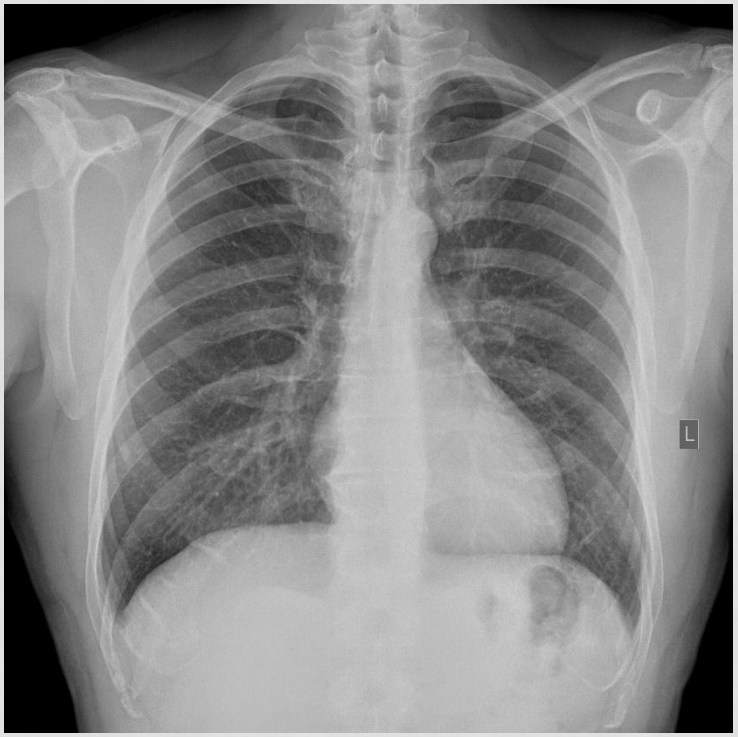


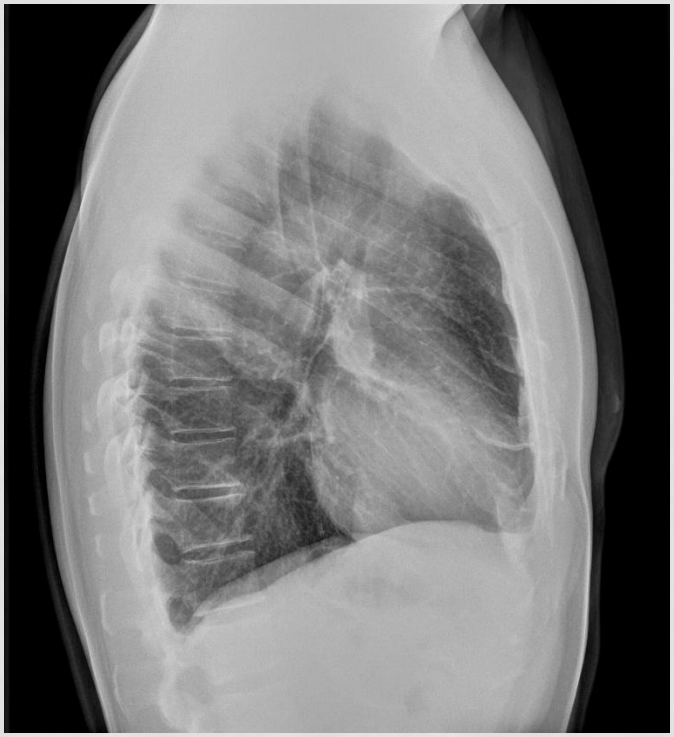






CHEST X-RAY PRE ABLATION

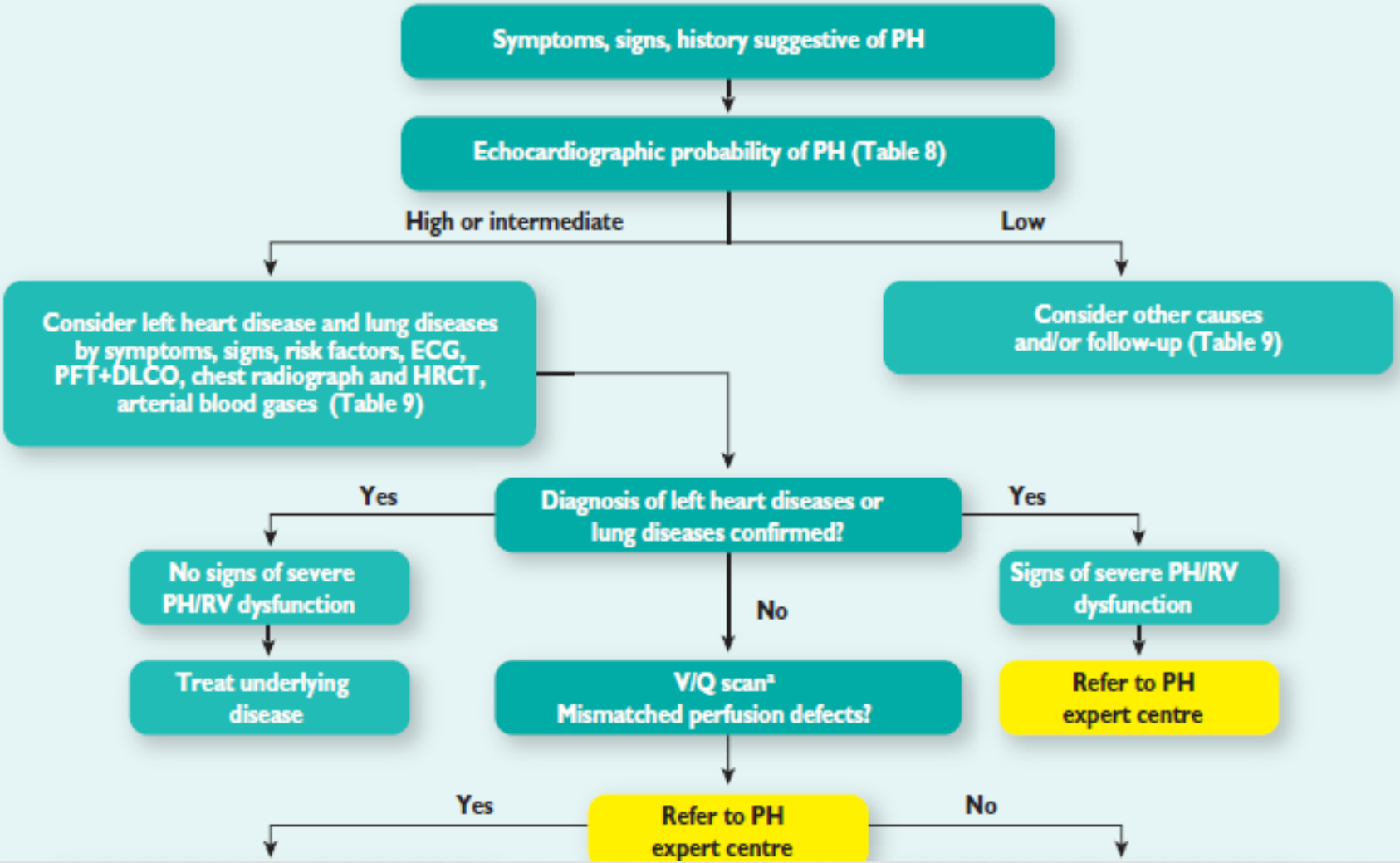




Πνευμονολογικός Ελεγχος: Ηπιο Περιοριστικό σύνδρομο

PULMONARY HYPERTENSION

DIAGNOSTIC ALGORITHM



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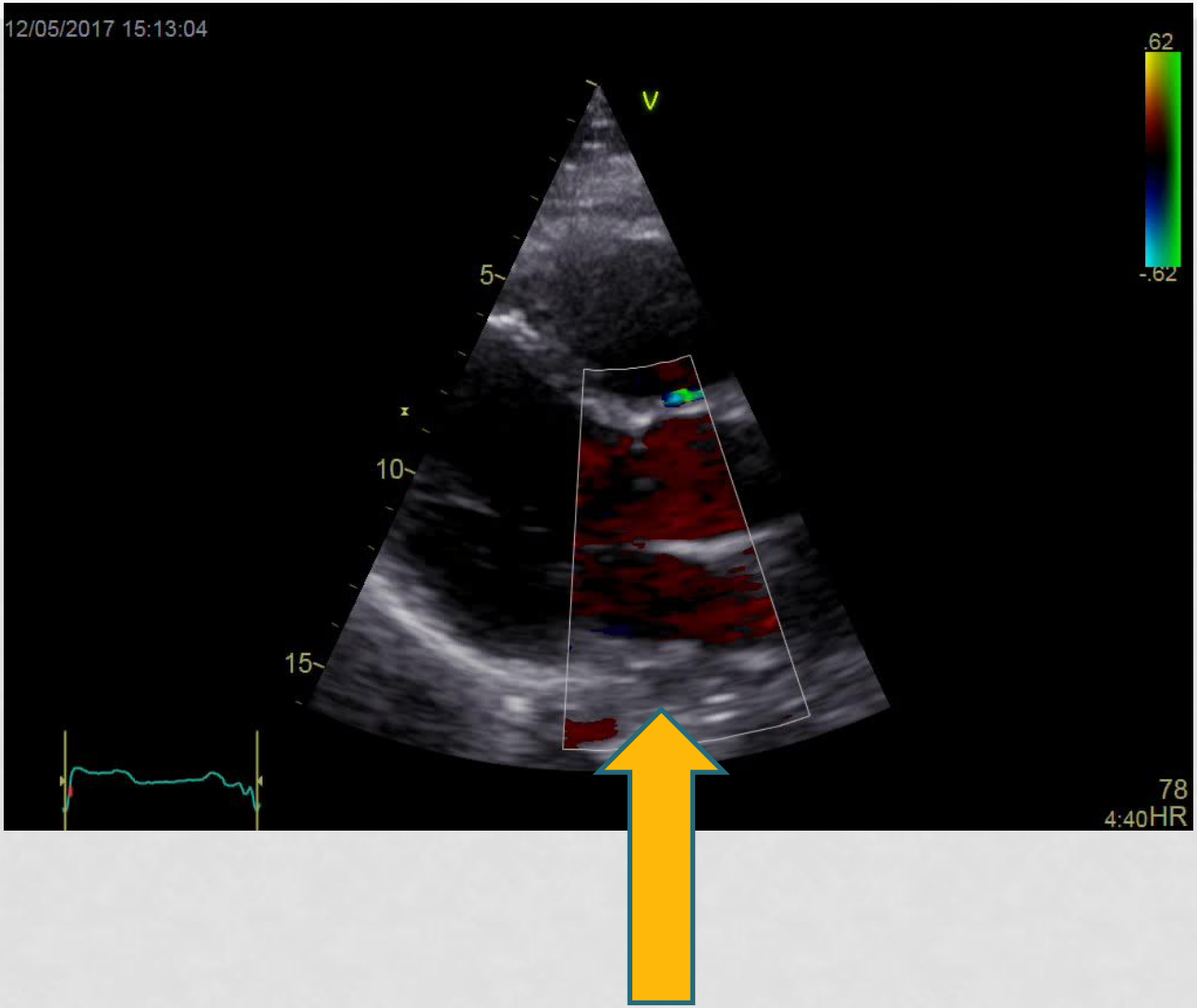

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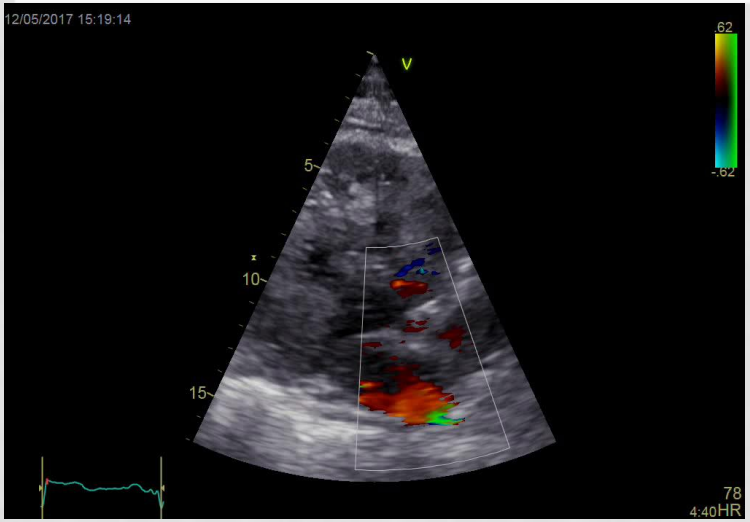

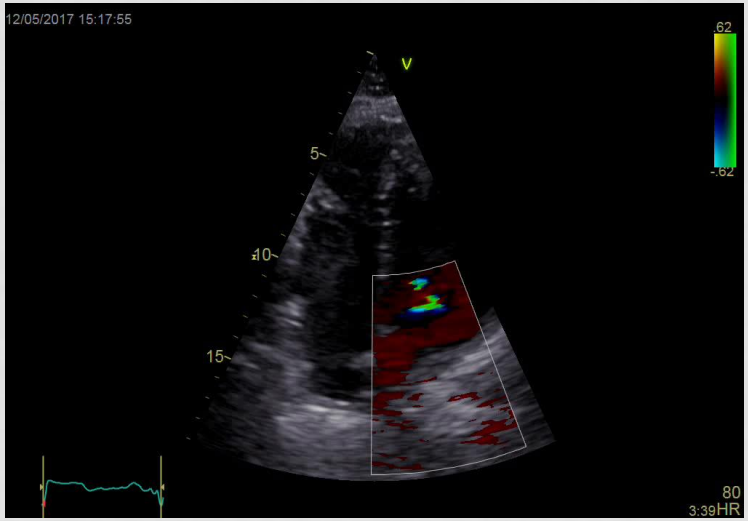

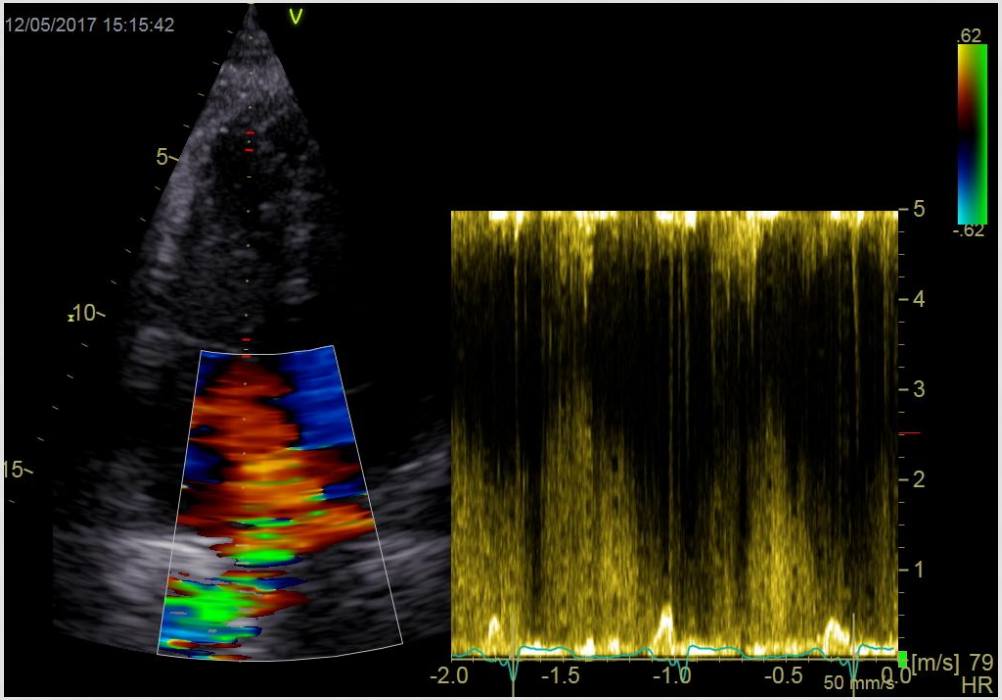

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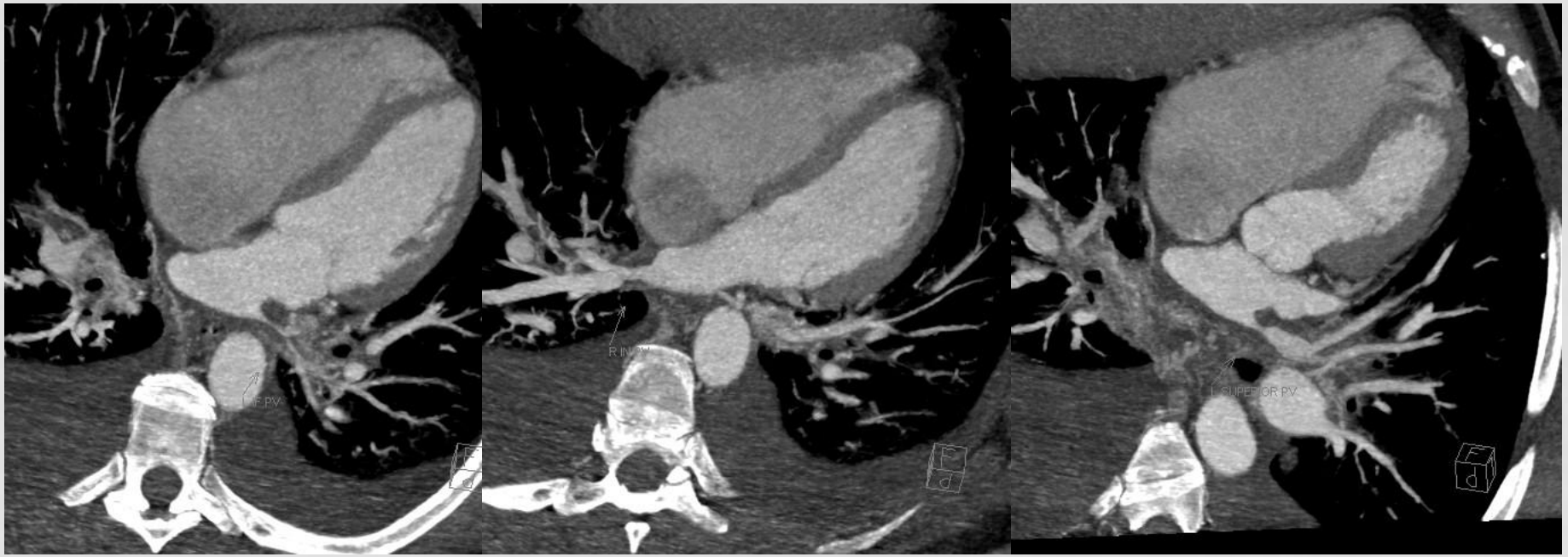

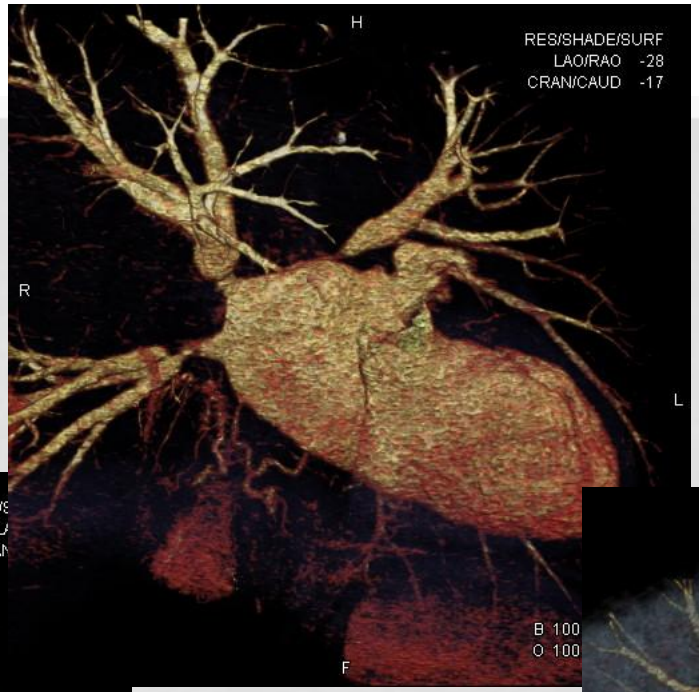
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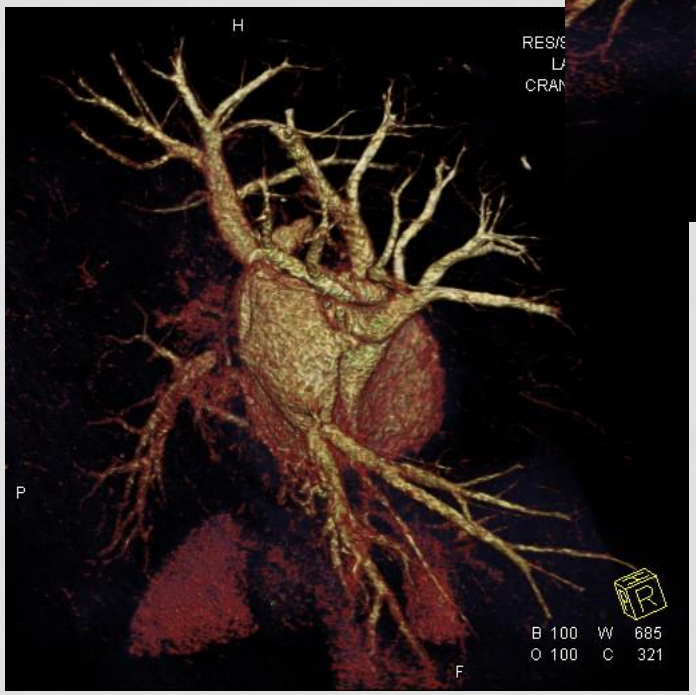
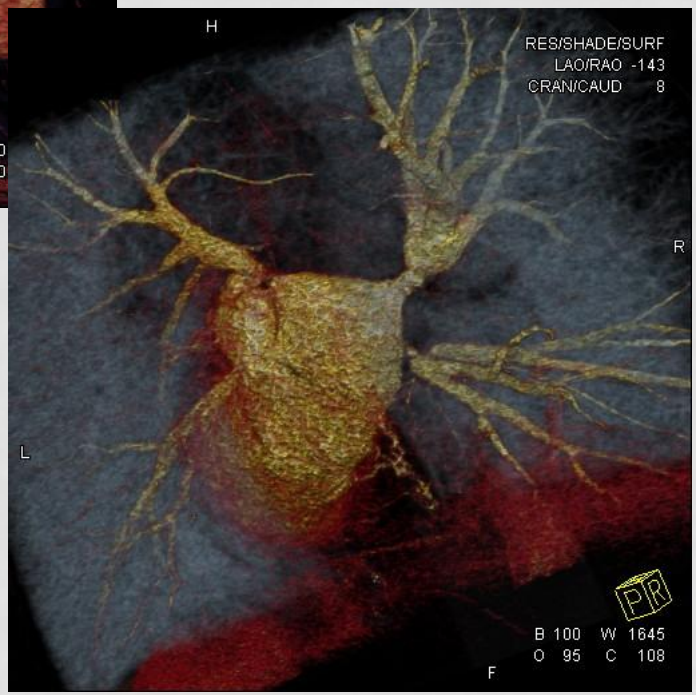
RES/SHADE/SURF
LAO/RAO -28
CRAN/CAUD -17
R
L
B 100
O 100
F


H
P
B 100 W 685
O 100 C 321
F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RES/SHADE/SURF
LAO/RAO -143
CRAN/CAUD 8
R
L
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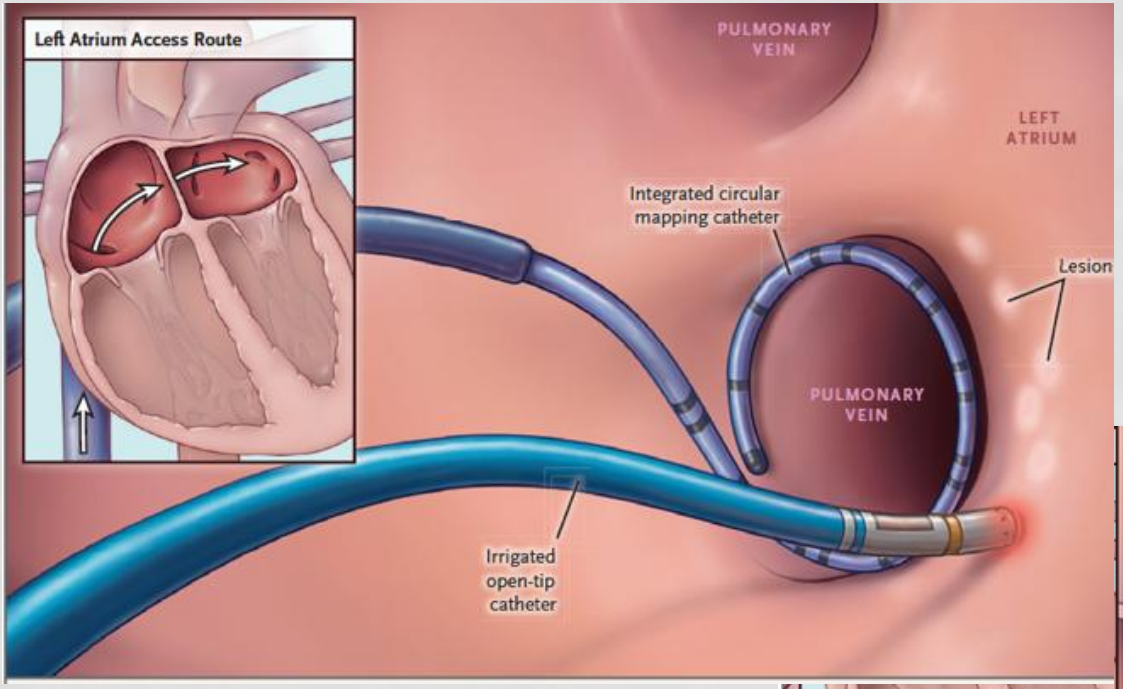
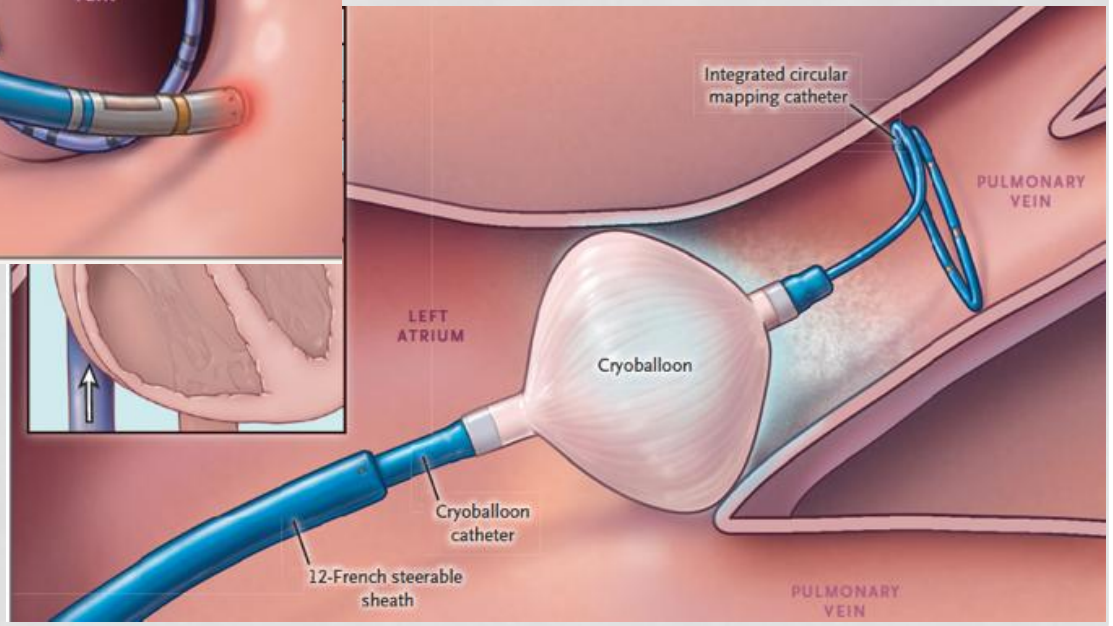
O 95 C 108
F

RADIOFREQUENCY VS CRYOBALLOON

PV ABLATION



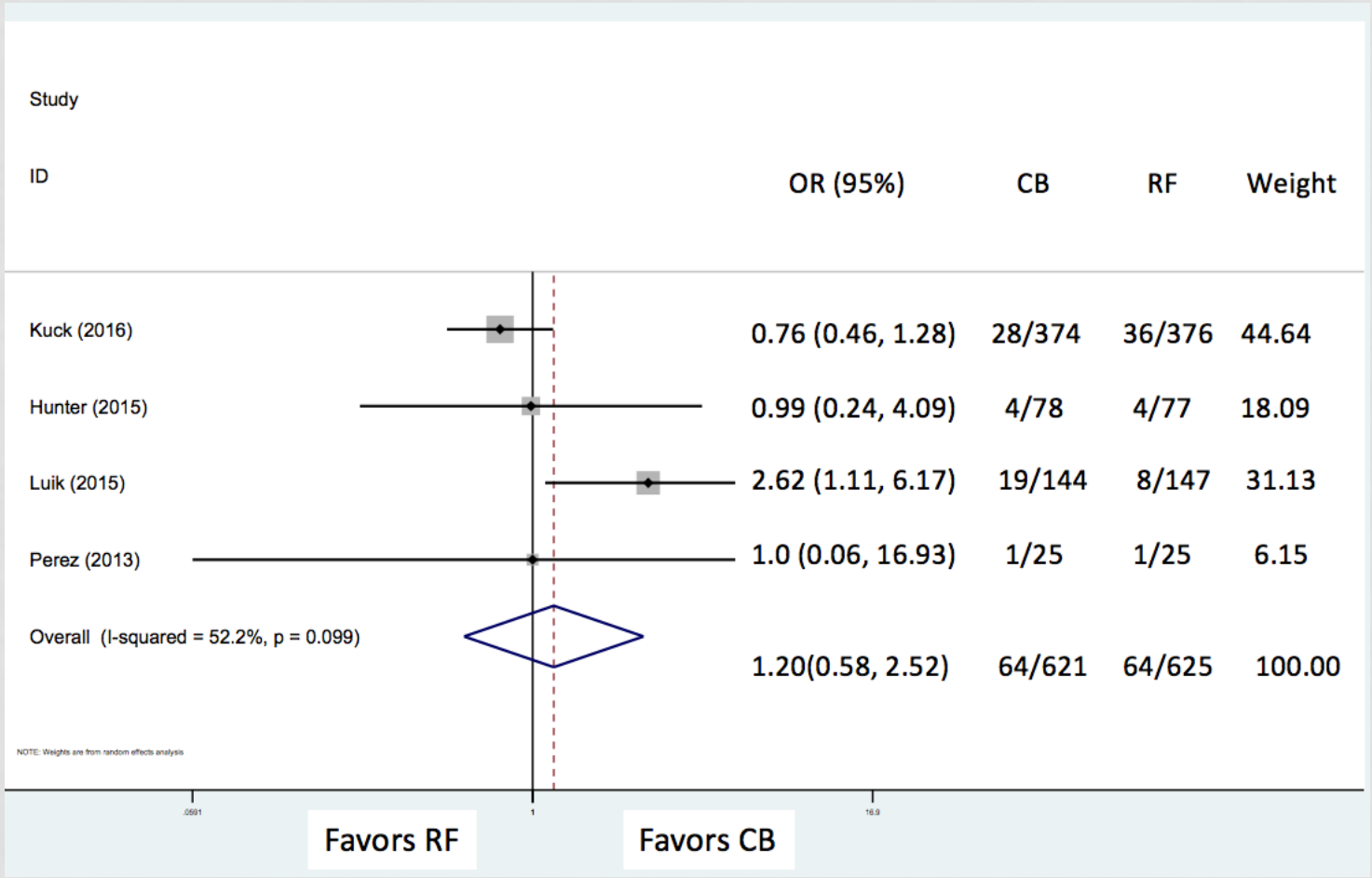


COMPLICATIONS WITH CB AND RF ABLATION

	Fire and ICE Kuck 2016		Cryo vs RF Hunter 2015		FreezeAF Luik 2015		Cor trial Perez 2013		Complications in total		
	CB	RF	CB	RF	CB	RF	CB	RF	CB	RF	Total
	28/374	36/376	4/78	4/77	19/156	8/159	1/25	1/25	53/633 (8.37%)	46/637 (7.22%)	(10,08%)
Cardiac-tamonade or pericardial effusi	2	5	0	2	2	3	0	0	4	10	14
atrial-esophageal fistula	0	0	0	0	0	0	0	0	0	0	0
Groin-side complication/ bleeding/AV	7	16	0	1	8	5	0	1	15	23	38
pulmonary and bronchial complication	2	4	0	0	0	0	0	0	2	4	6
PV stenosis	0	0	0	1	0	0	0	0	0	1	1
GI complication	1	2	0	0	0	0	0	0	1	2	3
phrenic palsies <12months	9	0	4	0	9	0	0	0	22	0	22
unresolved phrenic nerve injury at >12	1	0	0	0	0	0	0	0	1	0	1
cardiac undefined, short	3	0	0	0	0	0	0	0	3	0	3
anxiety	1	0	0	0	0	0	0	0	1	0	1
death (unrelated to procedure)	2	0	0	0	0	0	0	0	2	0	2
local edema	0	1	0	0	0	0	0	0	0	1	1
dyspnoe	1	2	0	0	0	0	0	0	1	2	3
contusion	0	1	0	0	0	0	0	0	0	1	1
CM reaction	0	1	0	0	0	0	0	0	0	1	1
Hematurie	0	1	0	0	0	0	0	0	0	1	1
Hemoptyse	0	0	0	0	0	0	1	0	1	0	1

Kuck KH et al. N Engl J Med. 2016 Jun 9;374(23):2235-45.
Hunter RJ et al. (The Cryo Versus RF Trial). J Cardiovasc Electrophysiol. 2015 Dec;26(12):1307-14.
Luik A et al. Circulation. 2015 Oct 6;132(14):1311-9. Pérez-Villacastín J. et al. Heart Rhythm. 2014 Jan;11(1):8-14.

FOREST PLOT OF COMPLICATIONS WITH CB AND RF ABLATION



Kuck KH et al. N Engl J Med. 2016 Jun 9;374(23):2235-45.
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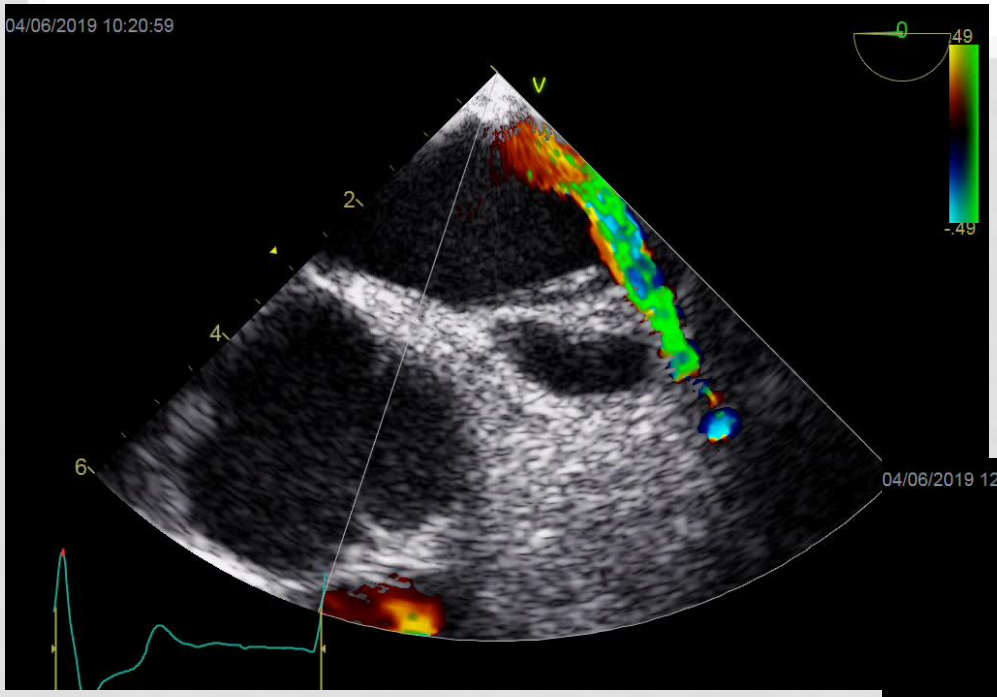
IOP TOE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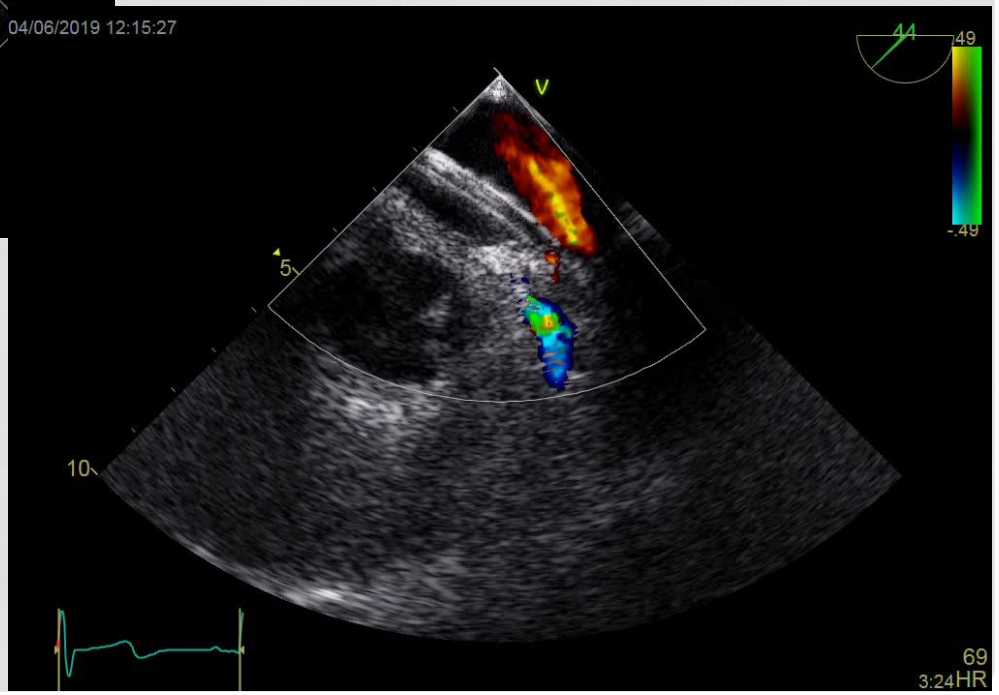
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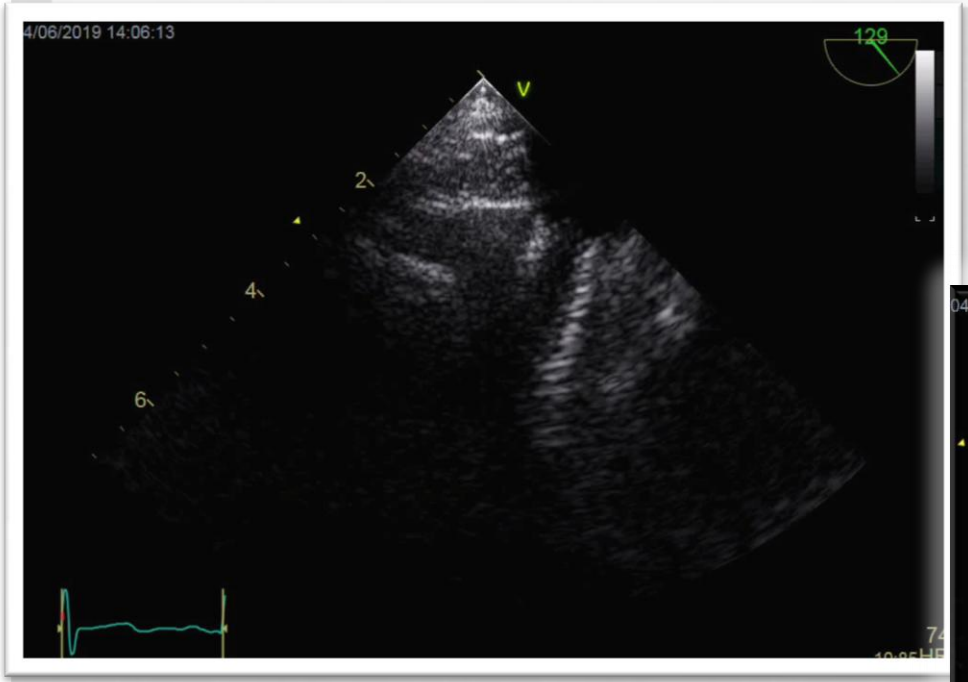

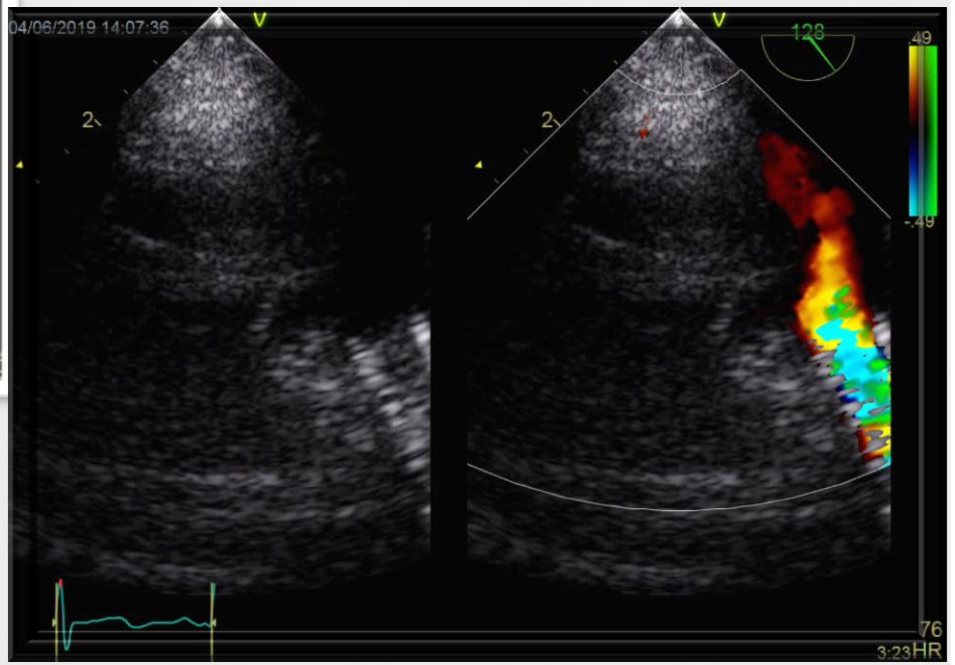

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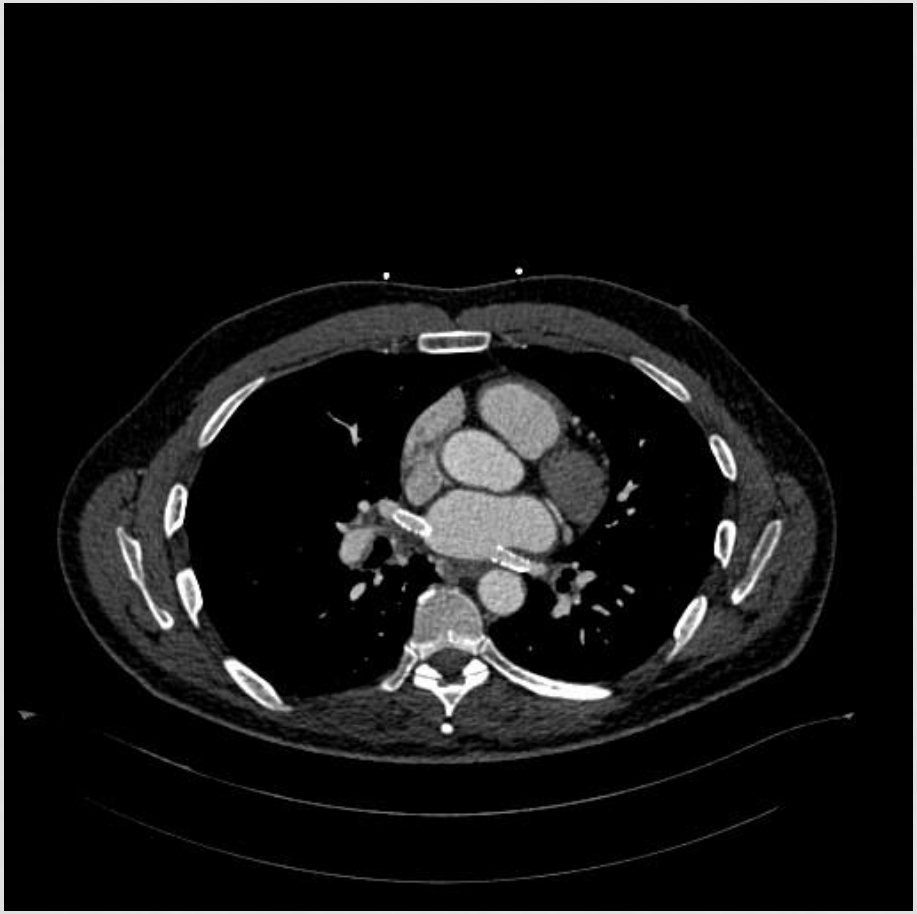

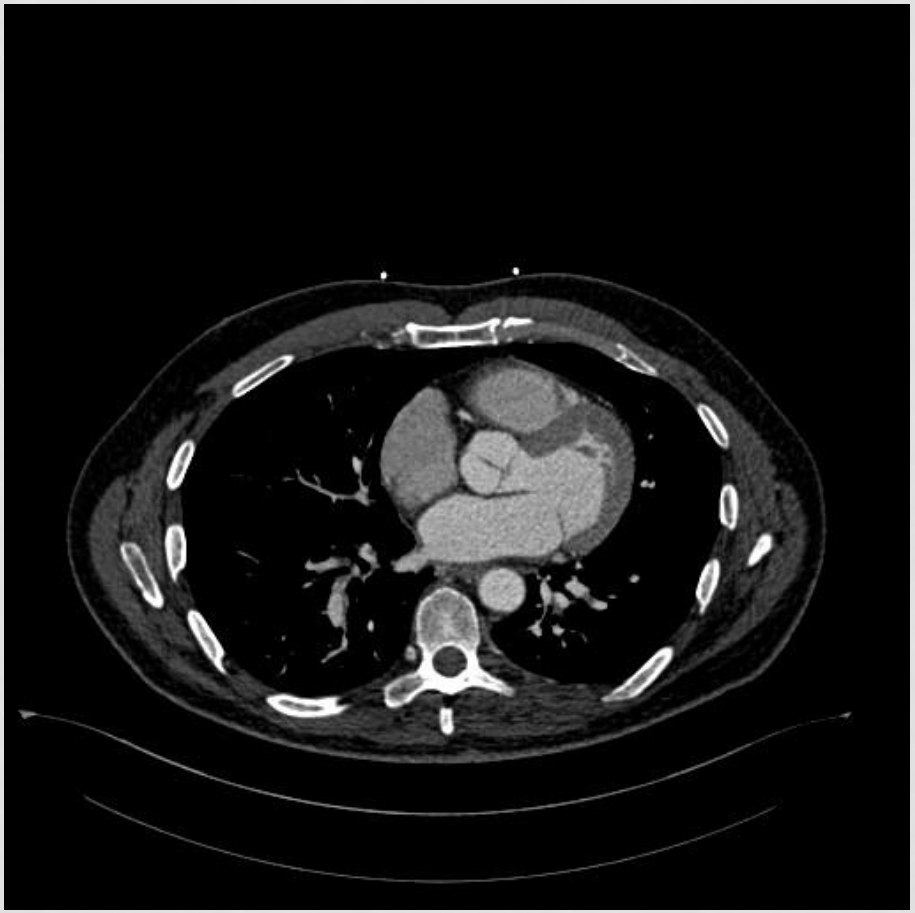

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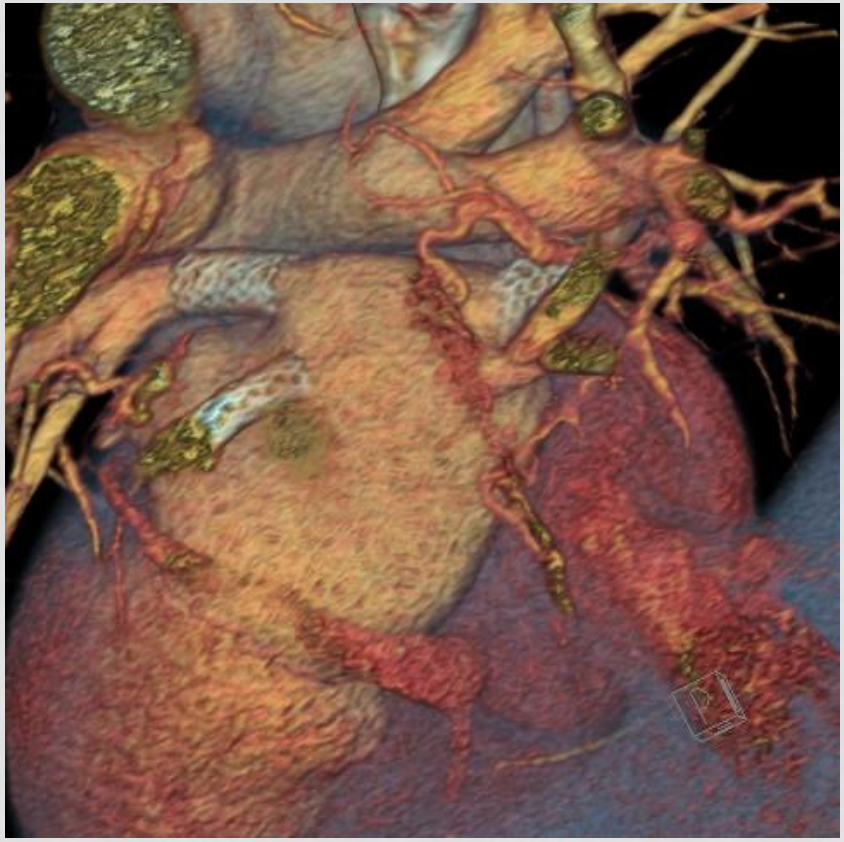
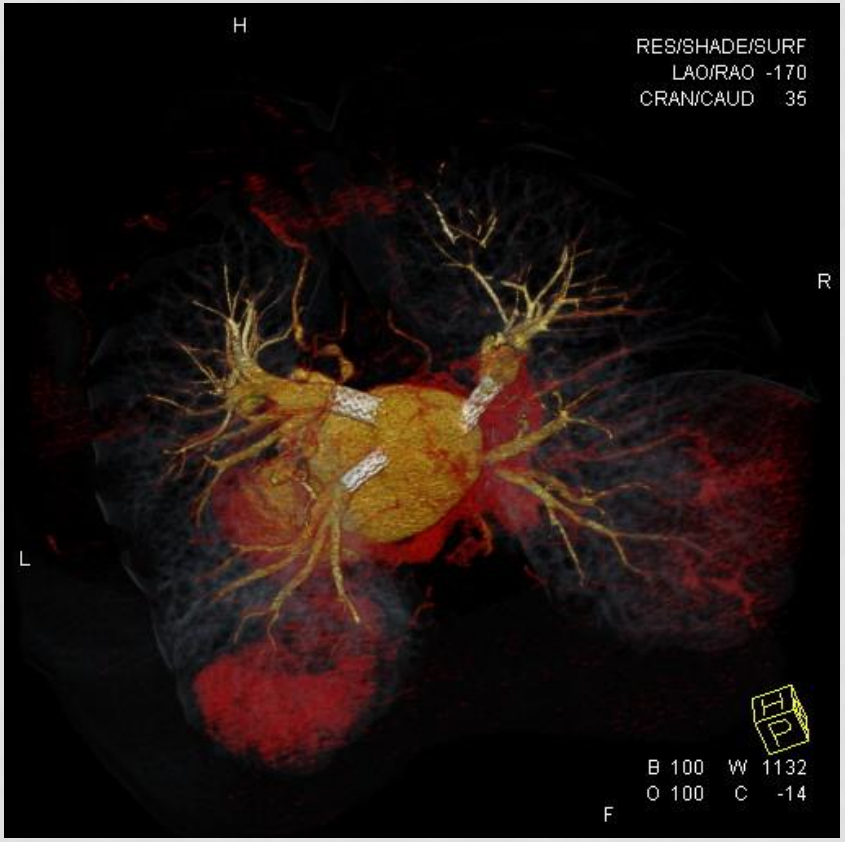
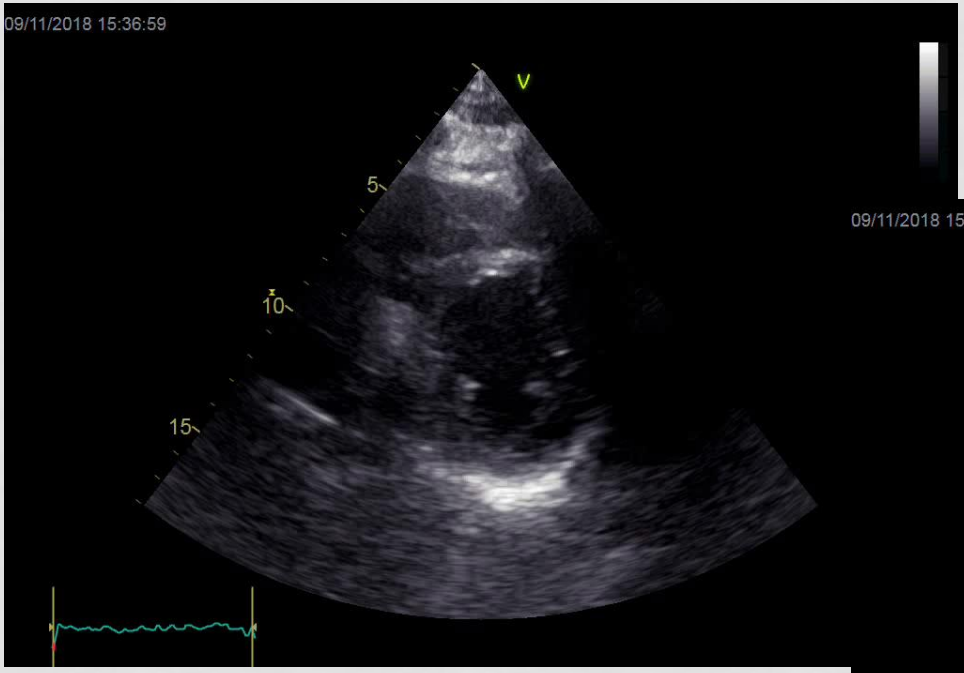
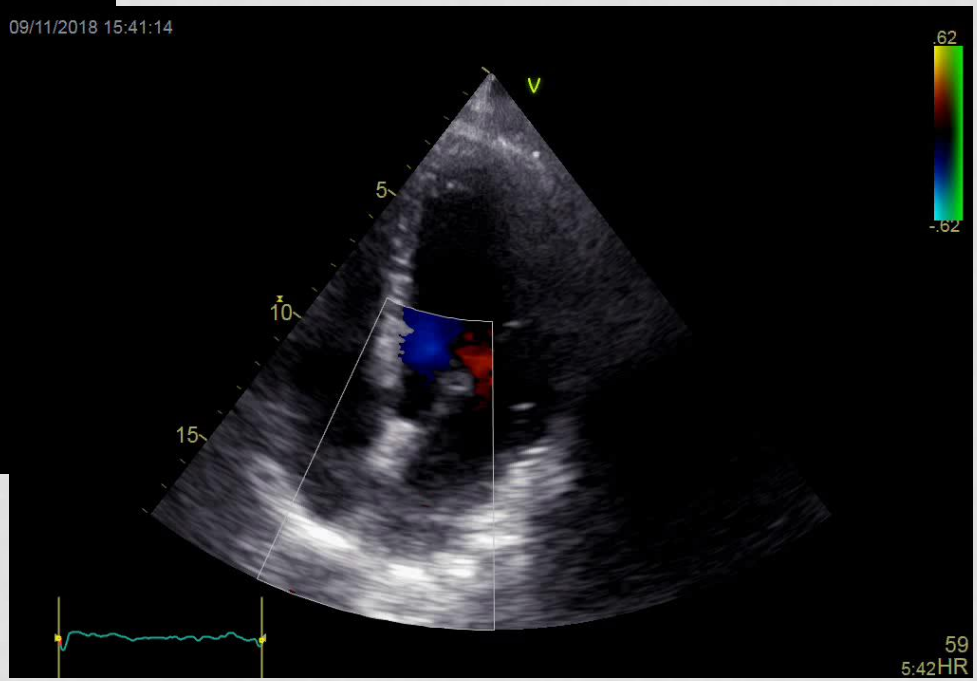




ENA XPONO META !!





AN UNUSUAL PRESENTATION OF IATROGENIC PULMONARY HYPERTENSION

HJC

ISSN 1109-9666

Official Journal of the Hellenic Cardiological Society

REVIEWS

ORIGINAL RESEARCH

CASE REPORT

LETTERS TO THE EDITOR

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Indexed in MEDLINE

- P. Karyofyllis, MD,
- E. Demerouti, MD,
- D. Tsiapras, MD,
- S. Kabanarou, MD
- O.Karapanagiotou, MD,
- I. Mastorakou, MD,
- V. Voudris, MD

- Hell J Cardiol 2019 in press

DIVING REFLEX

- During descent, the external increase in hydrostatic pressure compresses peripheral leg and abdominal veins, and in association with peripheral vasoconstriction initiates a simultaneous delivery of large amounts of blood to the chest areas (blood shift)
- As the drainage of PV was blocked due to PVS, blood shift in diving reflex led the patient to develop pulmonary oedema immediately after free-diving.

Ostrowski A, J Hum Kinet. 2012;32:197–210, Karyofilis P. H J Cardiol 2019

COMPREHENSIVE CLINICAL CLASSIFICATION OF PULMONARY HYPERTENSION

1. Pulmonary arterial hypertension

- 1.1 Idiopathic
- 1.2 Heritable
  - 1.2.1 BMPR2 mutation
  - 1.2.2 Other mutations
- 1.3 Drugs and toxins induced
- 1.4 Associated with:
  - 1.4.1 Connective tissue disease
  - 1.4.2 Human immunodeficiency virus (HIV) infection
  - 1.4.3 Portal hypertension
  - 1.4.4 Congenital heart disease (Table 6)
  - 1.4.5 Schistosomiasis

1'. Pulmonary veno-occlusive disease and/or pulmonary capillary haemangiomatosis

- 1'.1 Idiopathic
- 1'.2 Heritable
  - 1'.2.1 EIF2AK4 mutation
  - 1'.2.2 Other mutations
- 1'.3 Drugs, toxins and radiation induced
- 1'.4 Associated with:
  - 1'.4.1 Connective tissue disease
  - 1'.4.2 HIV infection

1''. Persistent pulmonary hypertension of the newborn

2. Pulmonary hypertension due to left heart disease

- 2.1 Left ventricular systolic dysfunction
- 2.2 Left ventricular diastolic dysfunction
- 2.3 Valvular disease
- 2.4 Congenital / acquired left heart inflow/outflow tract obstruction and congenital cardiomyopathies
- 2.5 Congenital /acquired pulmonary veins stenosis

3. Pulmonary hypertension due to lung diseases and/or hypoxia

- 3.1 Chronic obstructive pulmonary disease
- 3.2 Interstitial lung disease
- 3.3 Other pulmonary diseases with mixed restrictive and obstructive pattern
- 3.4 Sleep-disordered breathing
- 3.5 Alveolar hypoventilation disorders
- 3.6 Chronic exposure to high altitude
- 3.7 Developmental lung diseases (Web Table III)

4. Chronic thromboembolic pulmonary hypertension and other pulmonary artery obstructions

- 4.1 Chronic thromboembolic pulmonary hypertension
- 4.2 Other pulmonary artery obstructions
  - 4.2.1 Angiosarcoma
  - 4.2.2 Other intravascular tumors
  - 4.2.3 Arteritis
  - 4.2.4 Congenital pulmonary arteries stenoses
  - 4.2.5 Parasites (hydatidosis)

5. Pulmonary hypertension with unclear and/or multifactorial mechanisms

- 5.1 Haematological disorders: chronic haemolytic anaemia, myeloproliferative disorders, splenectomy
- 5.2 Systemic disorders, sarcoidosis, pulmonary histiocytosis, lymphangioleiomyomatosis
- 5.3 Metabolic disorders: glycogen storage disease, Gaucher disease, thyroid disorders
- 5.4 Others: pulmonary tumoral thrombothic microangiopathy, fibrosing mediastinitis, chronic renal failure (with/without dialysis), segmental pulmonary hypertension

2.6 Iatrogenic Pulmonary Vein Stenosis