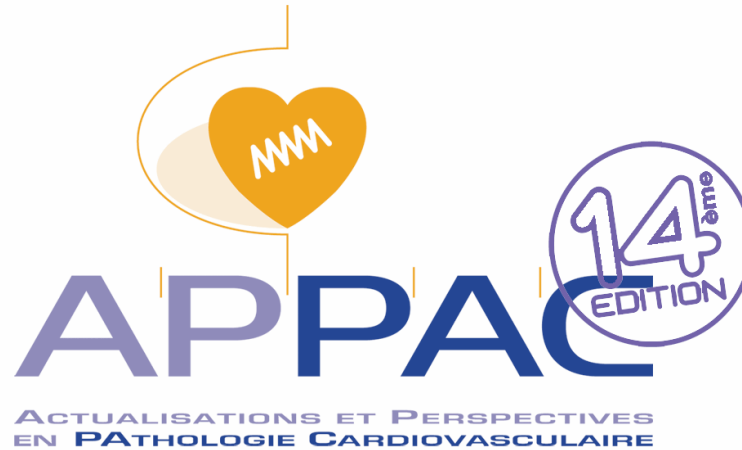


DE LA DAVD A LA SARCOÏDOSE...



Franck BARBOU
HIA Val de Grâce, Paris



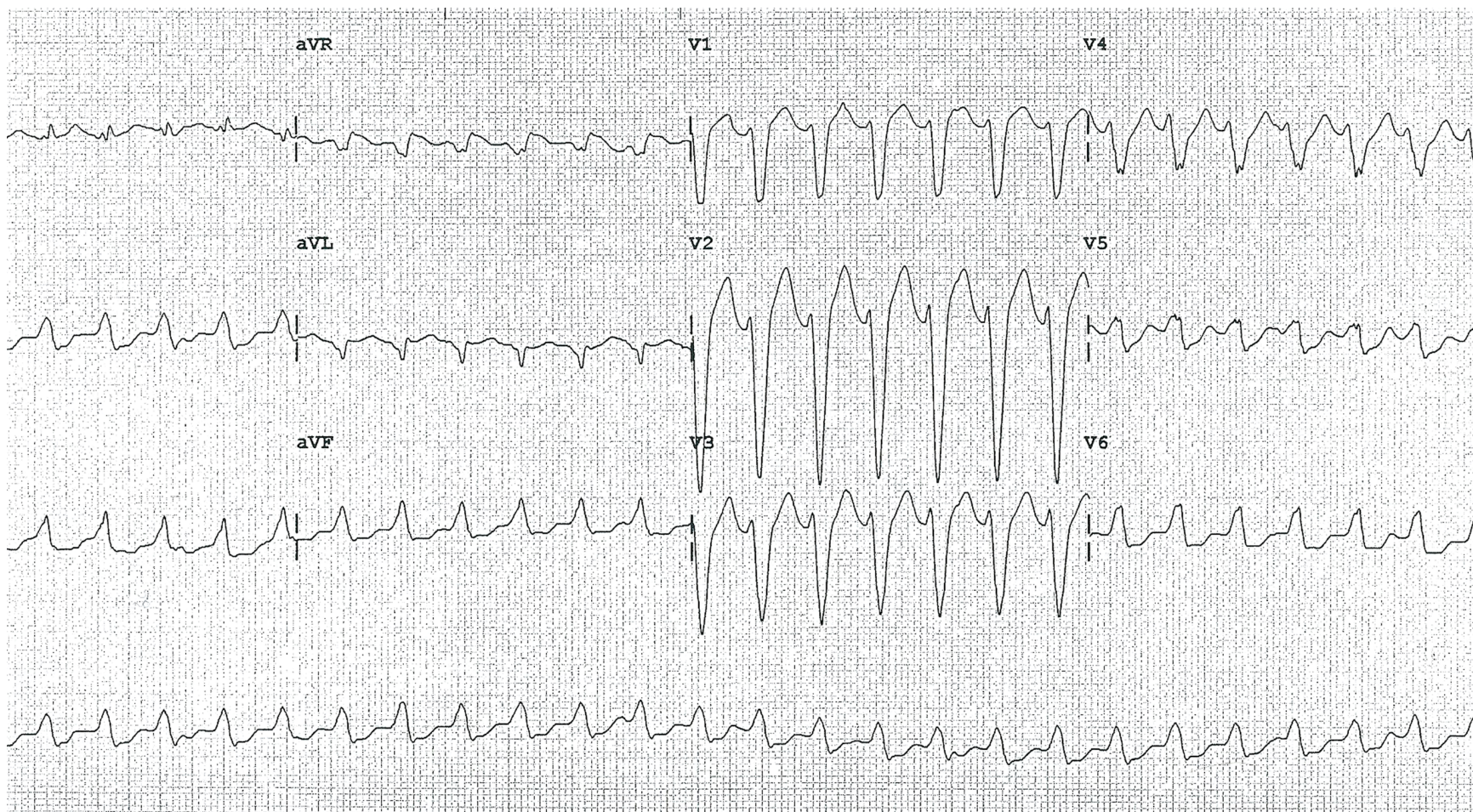
Franck BARBOU
HIA du Val de Grâce
Paris

*déclare n'avoir aucun conflit d'intérêt concernant les
données de sa communication*

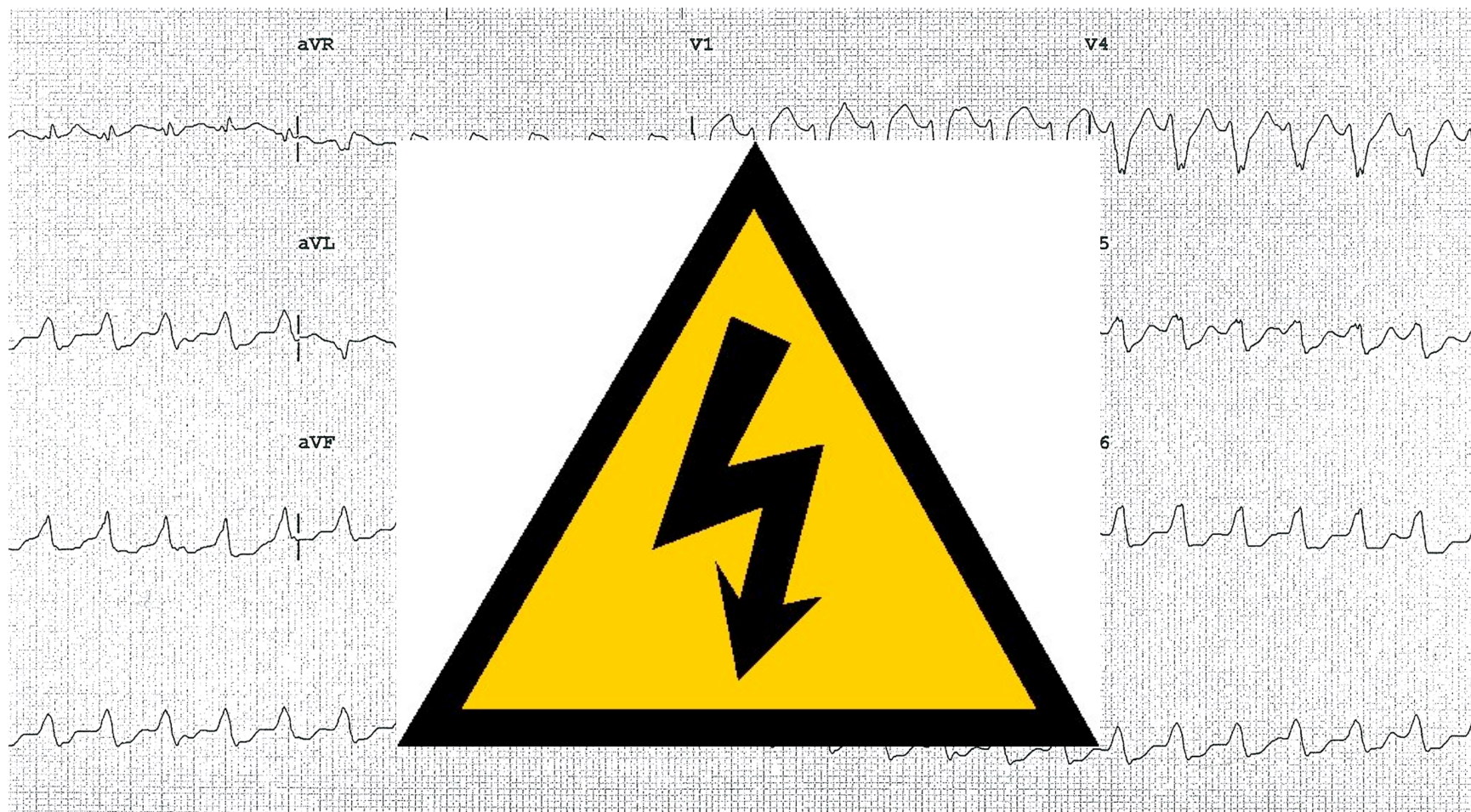
- Homme de 48 ans, adressé par le SAMU pour gêne respiratoire avec oppression thoracique évoluant depuis 3 jours au décours d'un footing.
- Pas d'ATCD
- Pas de FDRCV



ECG



ECG



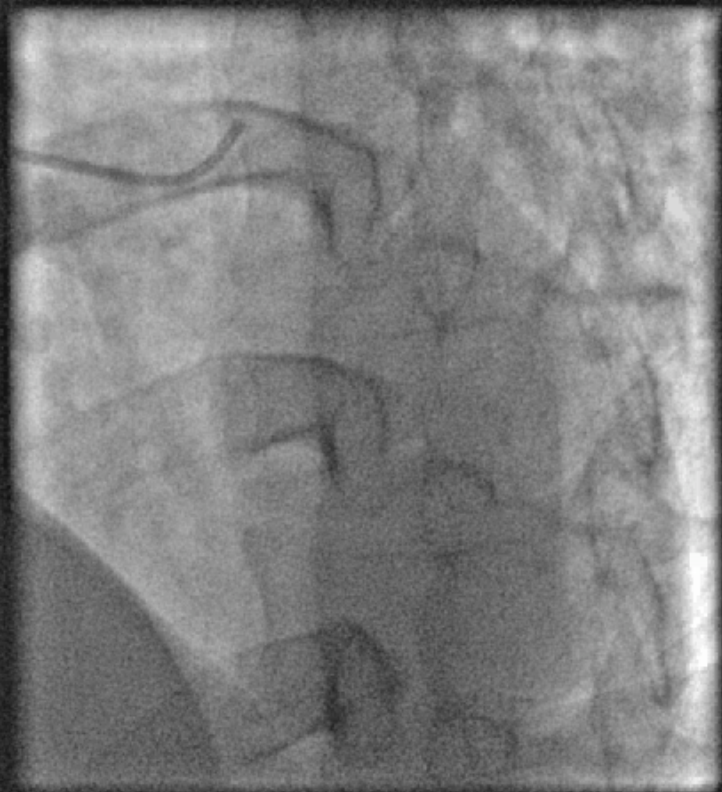
Evaluation initiale

- Examen clinique normal
- ECG: RS, QRS=115 ms, T<0 V1 à V3
- Biologie
- Radiographie pulmonaire
- Echocardiographie
 - ✓ VG peu dilaté, hypokinésie antéromédiane
 - ✓ FEVG=50%
 - ✓ VD de taille limite, hypokinétique

CORONAROGRAPHIE

CORONAROGRAPHIE

Filtre : Filtrer 4



Filtre : Filtrer 4

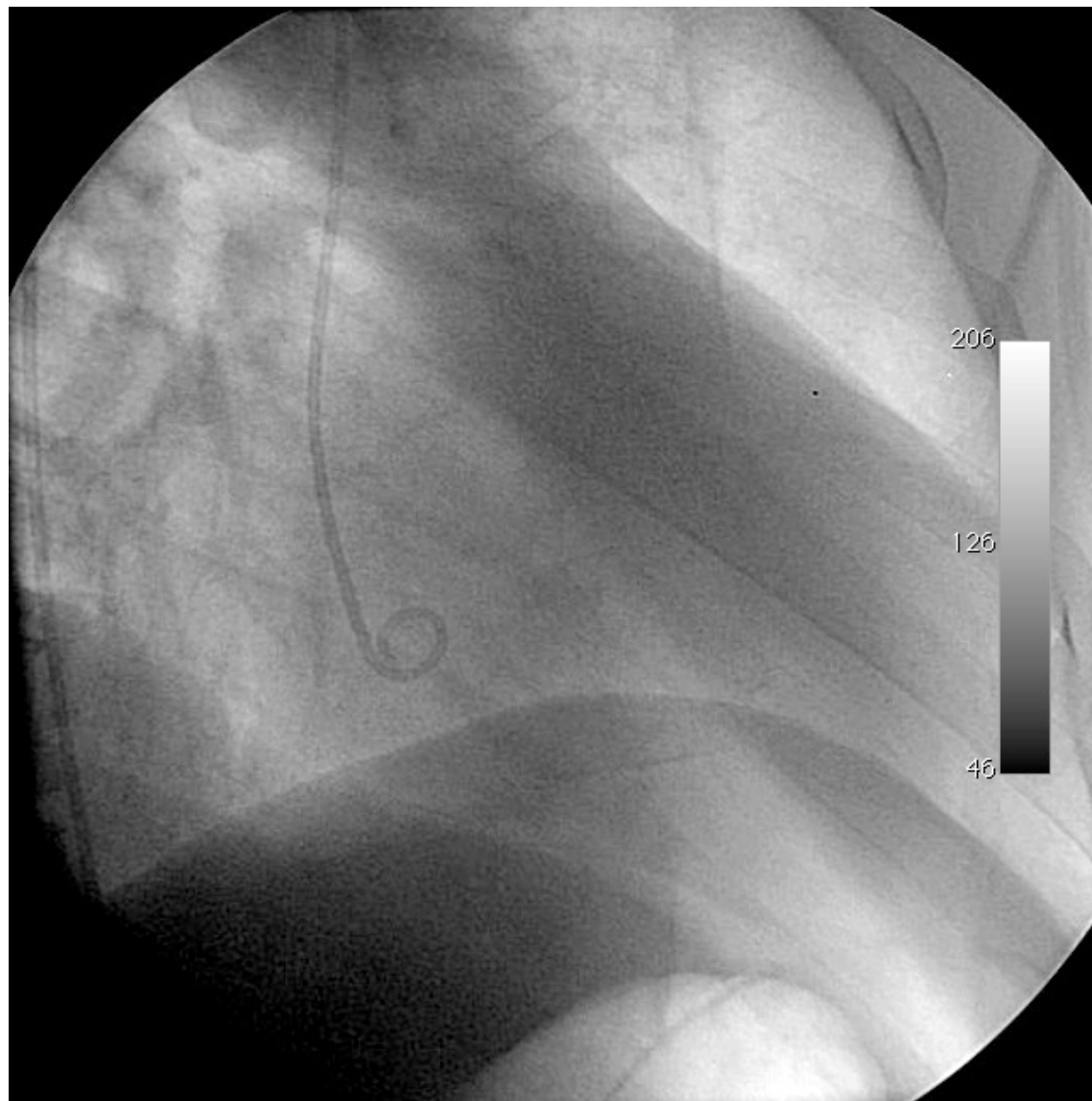


CORONAROGRAPHIE



ANGIOGRAPHIE VG

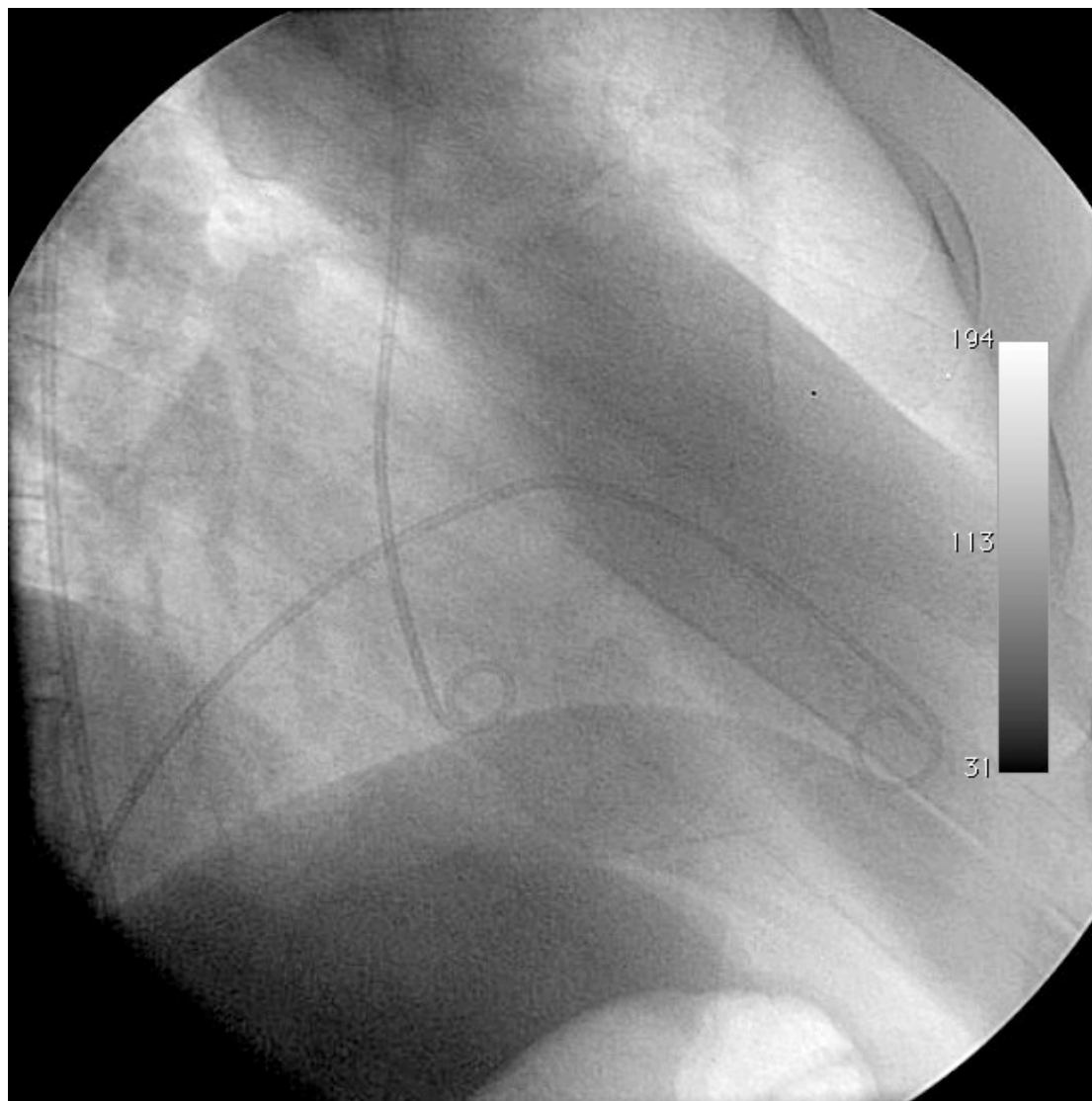
ANGIOGRAPHIE VG



ANGIOGRAPHIE VG

ANGIOGRAPHIE VD

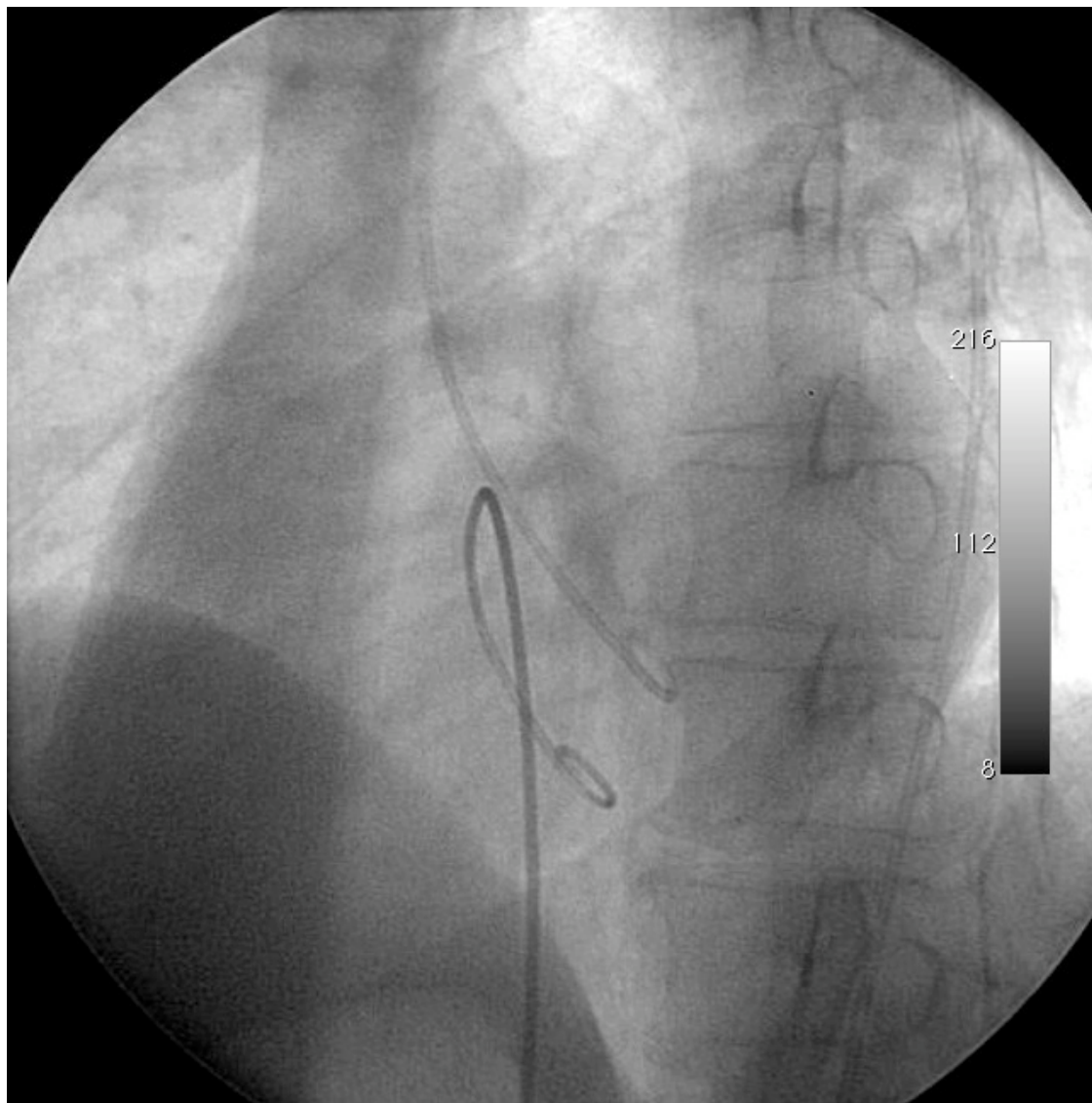
ANGIOGRAPHIE VD



ANGIOGRAPHIE VD

ANGIOGRAPHIE VD

ANGIOGRAPHIE VD



ANGIOGRAPHIE VD

Diagnosis of arrhythmogenic right ventricular cardiomyopathy/dysplasia

Proposed Modification of the Task Force Criteria

Frank I. Marcus^{1*} Chair, William J. McKenna² Co-Chair, Duane Sherrill¹, Cristina Basso³, Barbara Bauce³, David A. Bluemke⁴, Hugh Calkins⁵, Domenico Corrado³, Moniek G.P.J. Cox⁶, James P. Daubert⁷, Guy Fontaine¹⁰, Kathleen Gear¹, Richard Hauer⁶, Andrea Nava³, Michael H. Picard¹¹, Nikos Protonotarios¹³, Jeffrey E. Saffitz¹², Danita M. Yoerger Sanborn¹¹, Jonathan S. Steinberg⁹, Harikrishna Tandri⁵, Gaetano Thiene³, Jeffrey A. Towbin¹⁴, Adalena Tsatsopoulou¹³, Thomas Wichter¹⁵, and Wojciech Zareba⁸

I. Global or regional dysfunction and structural alterations*

Major

- Severe dilatation and reduction of RV ejection fraction with no (or only mild) LV impairment
- Localized RV aneurysms (akinetic or dyskinetic areas with diastolic bulging)
- Severe segmental dilatation of the RV

By 2D echo:

- Regional RV akinesia, dyskinesia, or aneurysm
- and 1 of the following (end diastole):
 - PLAX RVOT ≥ 32 mm (corrected for body size [PLAX/BSA] ≥ 19 mm/m²)
 - PSAX RVOT ≥ 36 mm (corrected for body size [PSAX/BSA] ≥ 21 mm/m²)
 - or fractional area change $\leq 33\%$

By MRI:

- Regional RV akinesia or dyskinesia or dyssynchronous RV contraction
- and 1 of the following:
 - Ratio of RV end-diastolic volume to BSA ≥ 110 mL/m² (male) or ≥ 100 mL/m² (female)
 - or RV ejection fraction $\leq 40\%$

By RV angiography:

- Regional RV akinesia, dyskinesia, or aneurysm

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III. Repolarization abnormalities

Major

- Inverted T waves in right precordial leads (V₁, V₂, and V₃) or beyond in individuals >14 years of age (in the absence of complete right bundle-branch block QRS ≥120 ms)

Minor

- Inverted T waves in right precordial leads (V₂ and V₃) (people age >12 years, in absence of right bundle-branch block)
- Inverted T waves in leads V₁ and V₂ in individuals >14 years of age (in the absence of complete right bundle-branch block) or in V₄, V₅, or V₆
- Inverted T waves in leads V₁, V₂, V₃, and V₄ in individuals >14 years of age in the presence of complete right bundle-branch block

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V. Arrhythmias

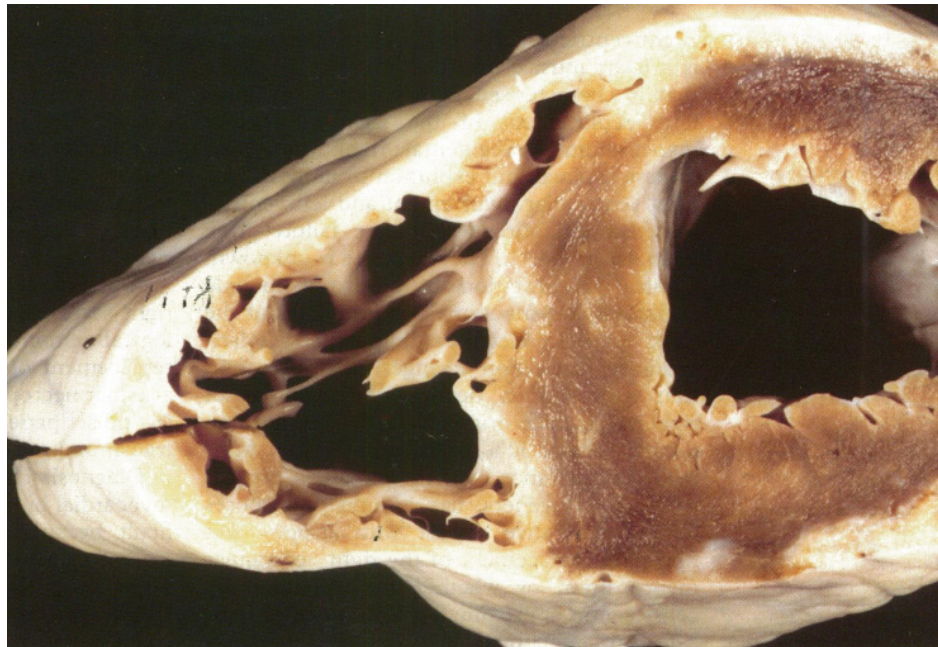
Major

- Nonsustained or sustained ventricular tachycardia of left bundle-branch morphology with superior axis (negative or indeterminate QRS in leads II, III, and aVF and positive in lead aVL)

Minor

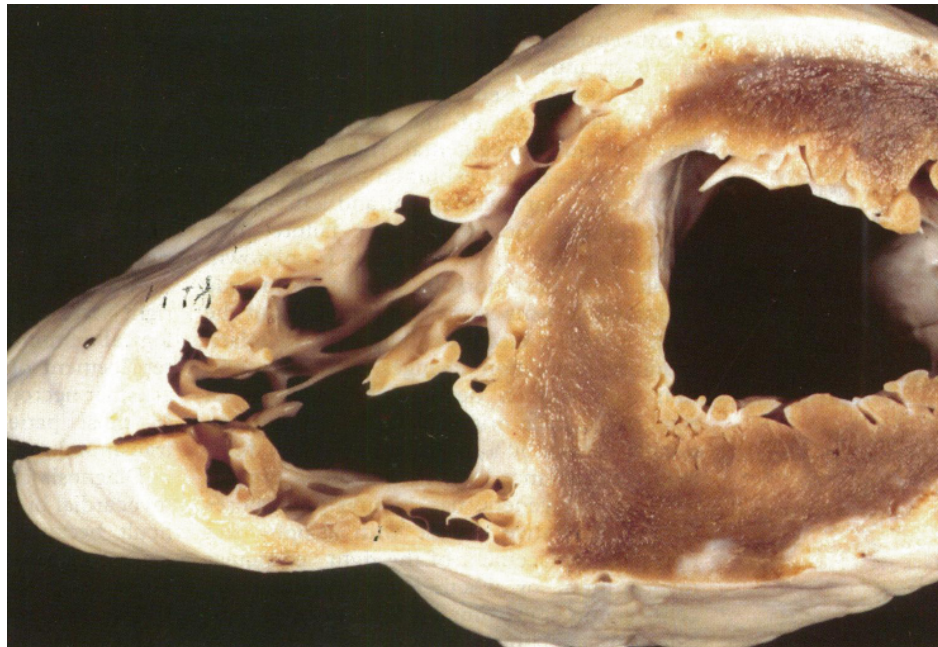
- Left bundle-branch block-type ventricular tachycardia (sustained and nonsustained) (ECG, Holter, exercise)
- Frequent ventricular extrasystoles (>1000 per 24 hours) (Holter)
- Nonsustained or sustained ventricular tachycardia of RV outflow configuration, left bundle-branch block morphology with inferior axis (positive QRS in leads II, III, and aVF and negative in lead aVL) or of unknown axis
- > 500 ventricular extrasystoles per 24 hours (Holter)

2 CRITERES MAJEURS 1 CRITERE MINEUR



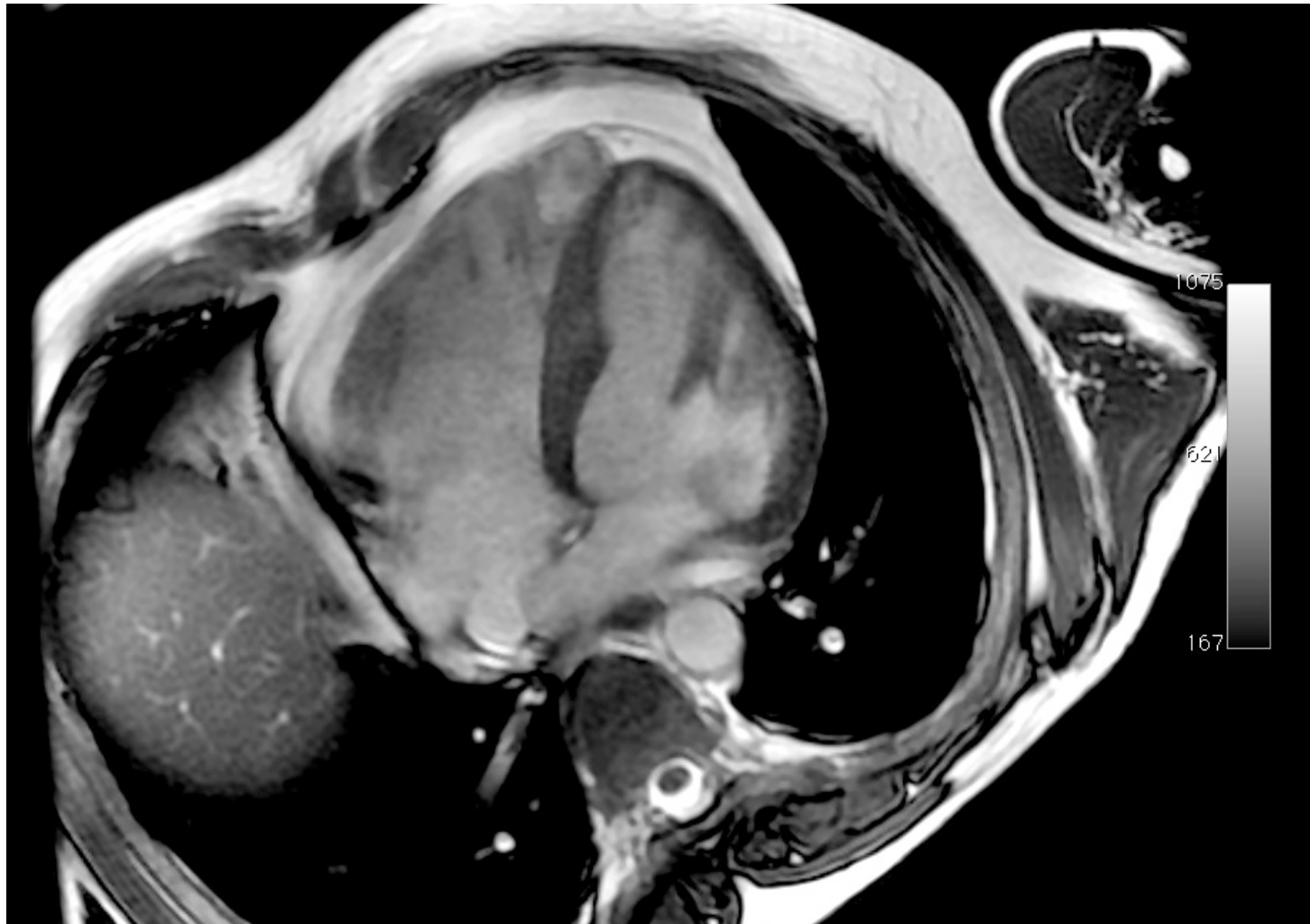
2 CRITERES MAJEURS
1 CRITERE MINEUR

DAVD



CINE IRM

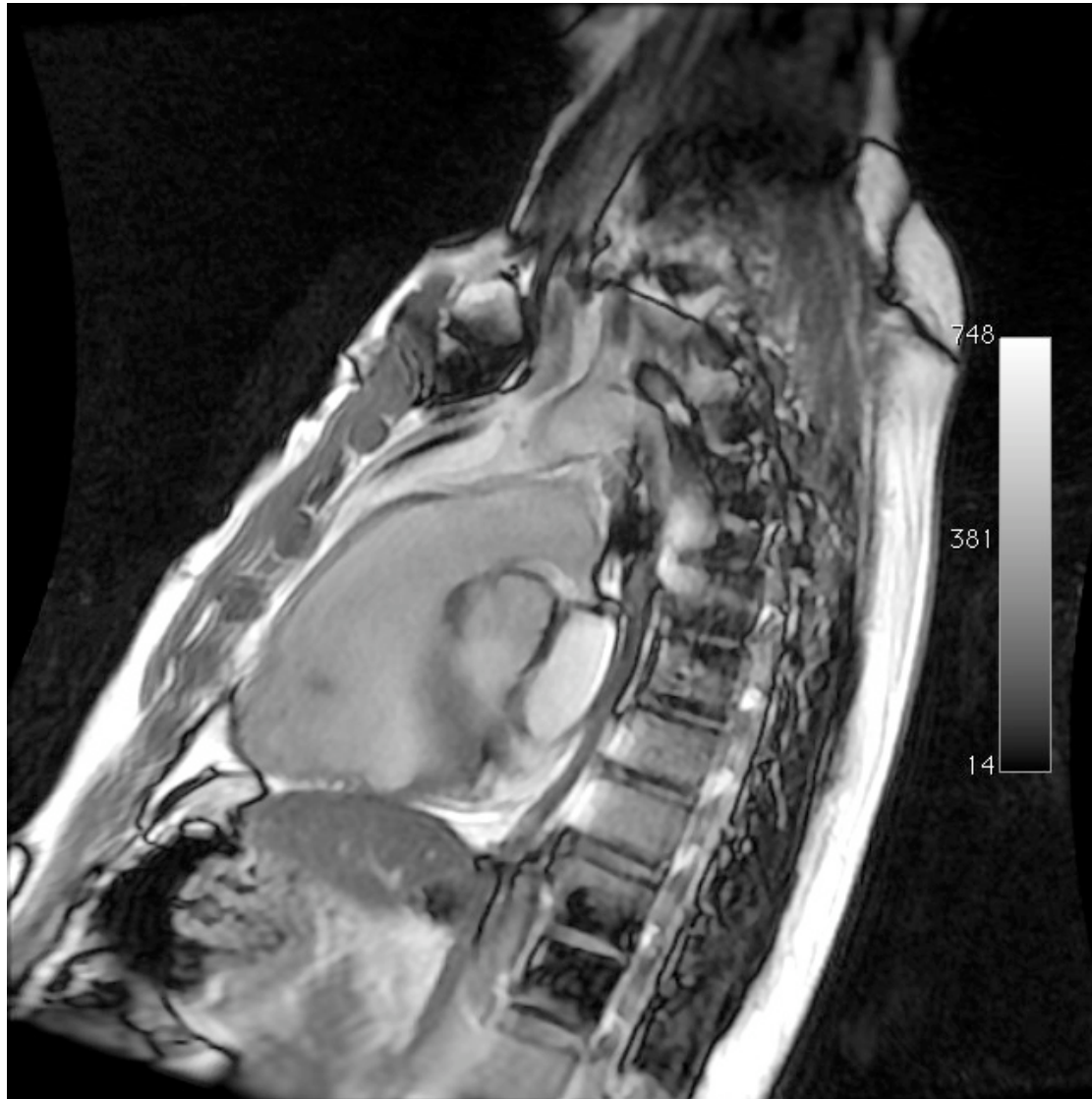
CINE IRM



CINE IRM

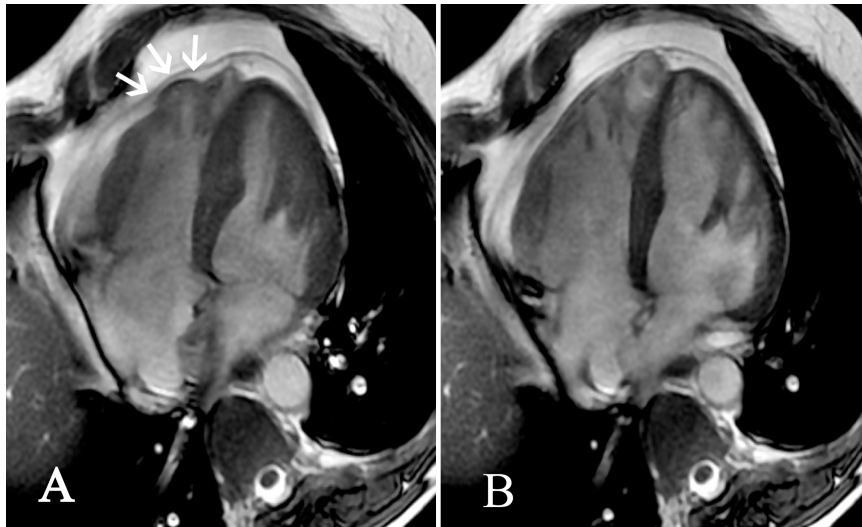
CINE IRM

CINE IRM



CINE IRM

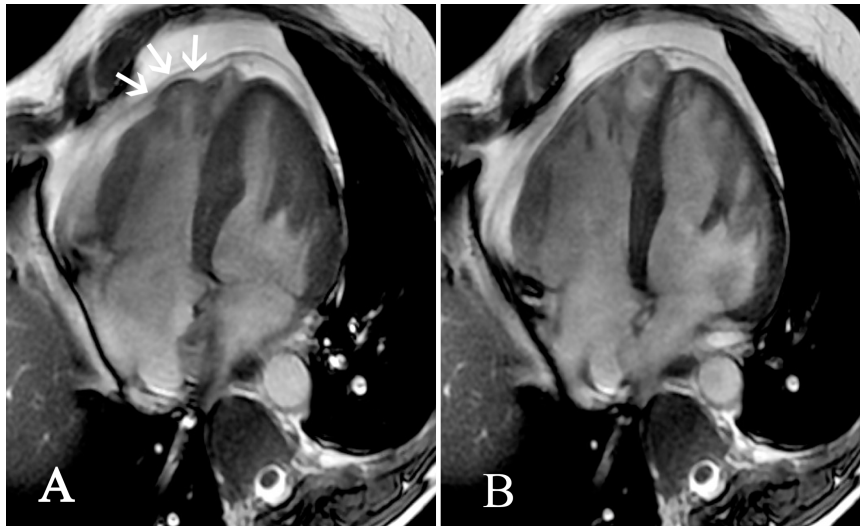
CINE IRM



VTVD= 116mL/m²

FEVD= 40%

CINE IRM



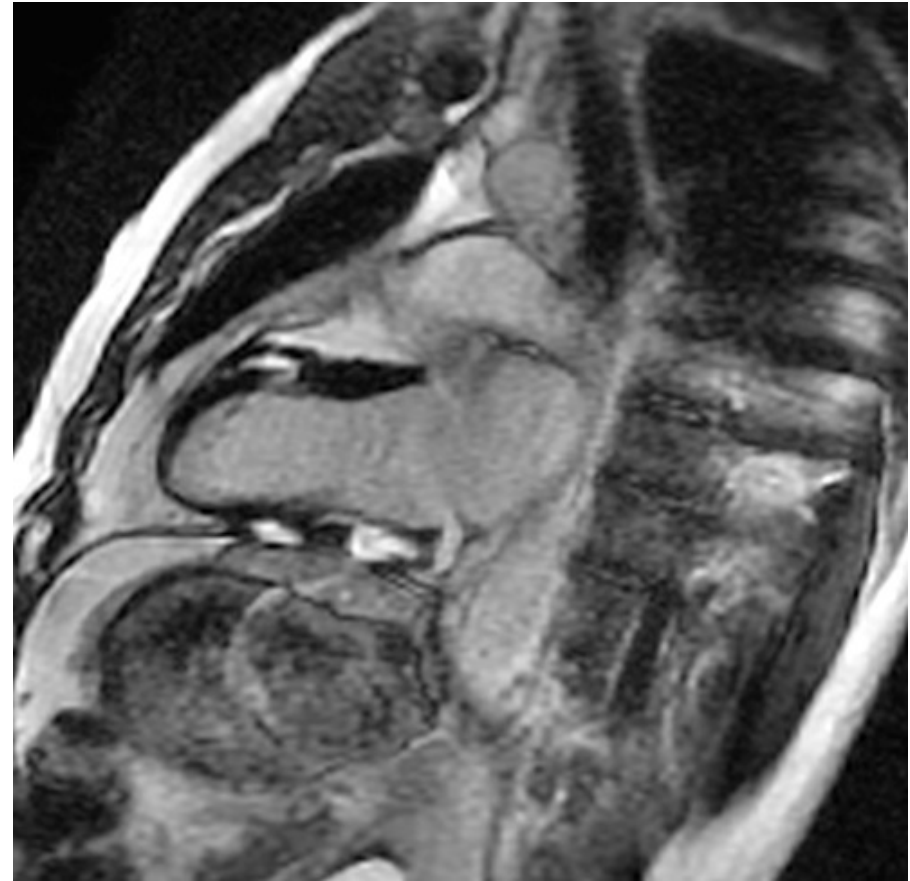
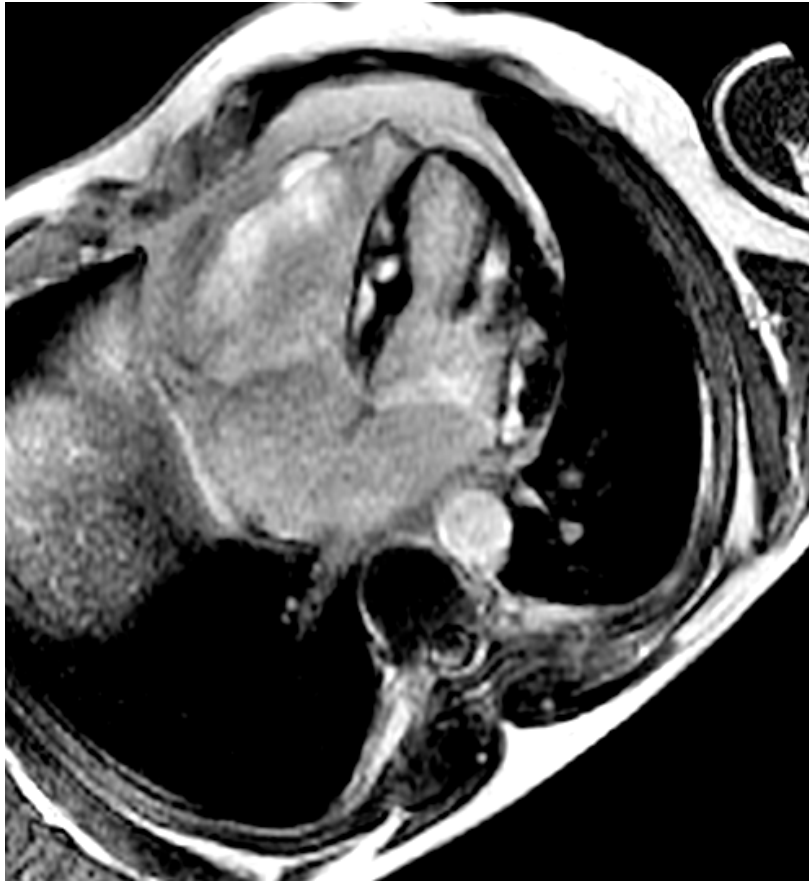
VTVD= 116mL/m²

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REHAUSSEMENT TARDIF



FOCUS ISSUE: CARDIAC IMAGING

Arrhythmogenic Right Ventricular Cardiomyopathy

Cardiovascular Magnetic Resonance in Arrhythmogenic Right Ventricular Cardiomyopathy Revisited

Comparison With Task Force Criteria and Genotype

Srijita Sen-Chowdhry, MA, MBBS, MRCP,*† Sanjay K. Prasad, MD, MRCP,† Petros Syrris, PhD,*
Ricardo Wage, DCR(R),† Deirdre Ward, MBBS, MRCPI,* Robert Merrifield, PhD,‡
Gillian C. Smith, MSc,† David N. Firmin, PhD,† Dudley J. Pennell, MD, FACC,†
William J. McKenna, MD, DSc, FACC*

London, United Kingdom

Table 5. Diagnostic Value and Statistical Significance of CMR Parameters in Genotyped Sample

CMR Parameter	Sensitivity	Specificity	Area Under ROC Curve	Strength of Association*
Volume analysis				
LV dilation and/or systolic impairment	54%	89%	LV dilation: 0.729	p = 0.048
RV dilation and/or systolic impairment	77%	100%	RV dilation: 0.846	p < 0.001
Abnormal trabeculation	50%	56%	N/A	p = NS
Severe RV segmental dilation/RWMA and/or aneurysms	69%	100%	N/A	p < 0.001
Mild RV localized dilation and/or RWMA	100%	44%	N/A	p = 0.003
Late enhancement (LV)†	100%	67%	LV late enhancement: 0.964	p = 0.001
Late enhancement (RV)†	59%	100%	RV fat/late enhancement: 0.796	p = 0.018
Intramyocardial fat (RV)	65%	89%		p = 0.007

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Utility of Cardiac Magnetic Resonance Imaging to Differentiate Cardiac Sarcoidosis from Arrhythmogenic Right Ventricular Cardiomyopathy

David A. Steckman, MD^a, Preston M. Schneider, MD^a, Joseph L. Schuller, MD^a, Ryan G. Aleong, MD^a, Duy T. Nguyen, MD^a, Gianfranco Sinagra, MD^b, Giancarlo Vitrella, MD^b, Francesca Brun, MD^b, Maria A. Cova, MD^c, Lorenzo Pagnan, MD^c, Luisa Mestroni, MD^a, Paul D. Varosy, MD^a, and William H. Sauer, MD^{a,*}

Am J Cardiol 2012



July 3, 2012

Coronary Artery Disease	Heart Failure
Effect of Exercise Training on Hemodynamics in Aging Hypertensive Subjects: A Randomized Trial	Cardiac Sarcoidosis: A Review of the Literature
1	279
Comparison of the Predictive Value of Two Different Risk-Score Systems of Patients With Coronary Artery Disease: A Retrospective Cohort Study	Effect of Long-Term Angiotensin-Converting Enzyme Inhibitor or Angiotensin Receptor Blocker, and Value in Mortality in Patients With Ischemic Cardiovascular Disease
4	277
Effect of Exercise Training on Hemodynamics, Left Ventricular Function, and Quality of Life in Patients With Heart Failure: A Randomized Trial	Hypertension
11	Effect of Long-Term Angiotensin-Converting Enzyme Inhibitor or Angiotensin Receptor Blocker on Mortality in Patients With Ischemic Cardiovascular Disease
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Association Between Hemodynamic Parameters and Mortality in Patients With Heart Failure: A Retrospective Cohort Study	Cardiomyopathy
18	New Classification Scheme of Left Ventricular Hypertrophy and Conduction Risk
18	282
Respiratory Diseases (COPD)	Editorial
The Effect of Spirometry on the Detection of COPD in Patients With Chronic Heart Failure	Editorial: Heart Failure and Clinical Practice: A Review of the Literature
23	283
Preventive Cardiology	For the complete table of contents, see pages A1-A32
Comparison of Two Cardiovascular Risk-Score Models in Predicting Mortality: A Retrospective Cohort Study	
40	
Effect of Exercise Training on Hemodynamics in Aging Hypertensive Subjects: A Randomized Trial	
47	

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Am J Cardiol 2012



Coronary Artery Disease	
Effect of Exercise Training on Hemodynamic and Biochemical Responses in Patients with Coronary Artery Disease: A Randomized Controlled Trial	1
Comparison of the Predictive Value of Two Different Risk-Score Algorithms of Patients with Coronary Artery Disease: A Retrospective Cohort Study	4
Effect of Exercise Training on Hemodynamic and Biochemical Responses in Patients with Coronary Artery Disease: A Randomized Controlled Trial	11
Exercise Training and Hemodynamic and Biochemical Responses in Patients with Coronary Artery Disease: A Randomized Controlled Trial	18
Cardiovascular Medicine	
The Effect of Exercise Training on Hemodynamic and Biochemical Responses in Patients with Coronary Artery Disease: A Randomized Controlled Trial	23
Preventive Cardiology	
Comparison of the Predictive Value of Two Different Risk-Score Algorithms of Patients with Coronary Artery Disease: A Retrospective Cohort Study	28
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Cardiovascular Medicine	
The Effect of Exercise Training on Hemodynamic and Biochemical Responses in Patients with Coronary Artery Disease: A Randomized Controlled Trial	43
Cardiovascular Medicine	
The Effect of Exercise Training on Hemodynamic and Biochemical Responses in Patients with Coronary Artery Disease: A Randomized Controlled Trial	48

En faveur de la sarcoïdose:

- ✓ VD moins dilaté
- ✓ Atteinte VG plus fréquente
- ✓ Atteinte septale
- ✓ Adénopathies médiastinales

Utility of Cardiac Magnetic Resonance Imaging to Differentiate Cardiac Sarcoidosis from Arrhythmogenic Right Ventricular Cardiomyopathy

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Steckman. Am J Cardiol 2012

[illegible]

En faveur de la sarcoïdose:

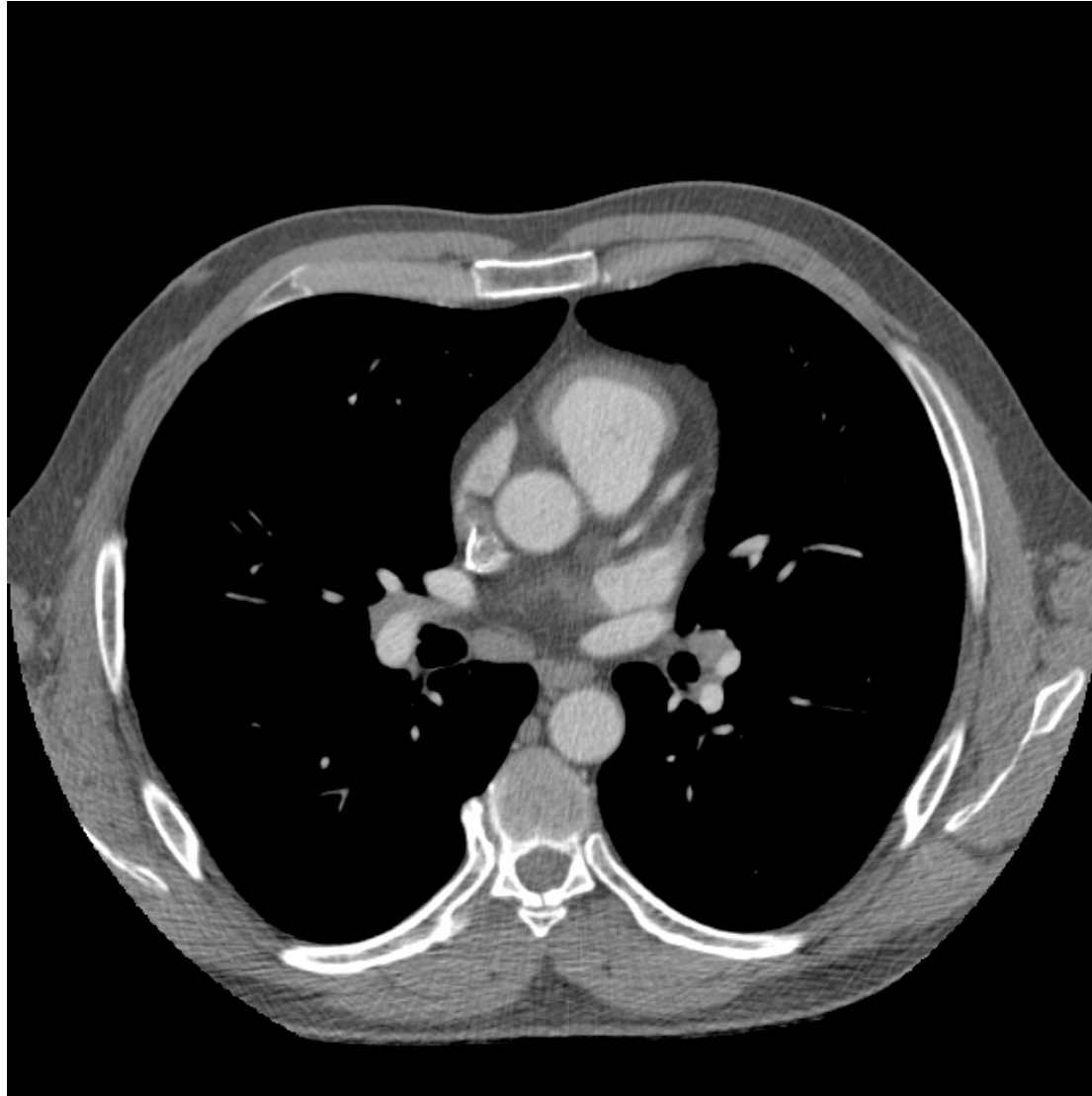
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Sensibilité

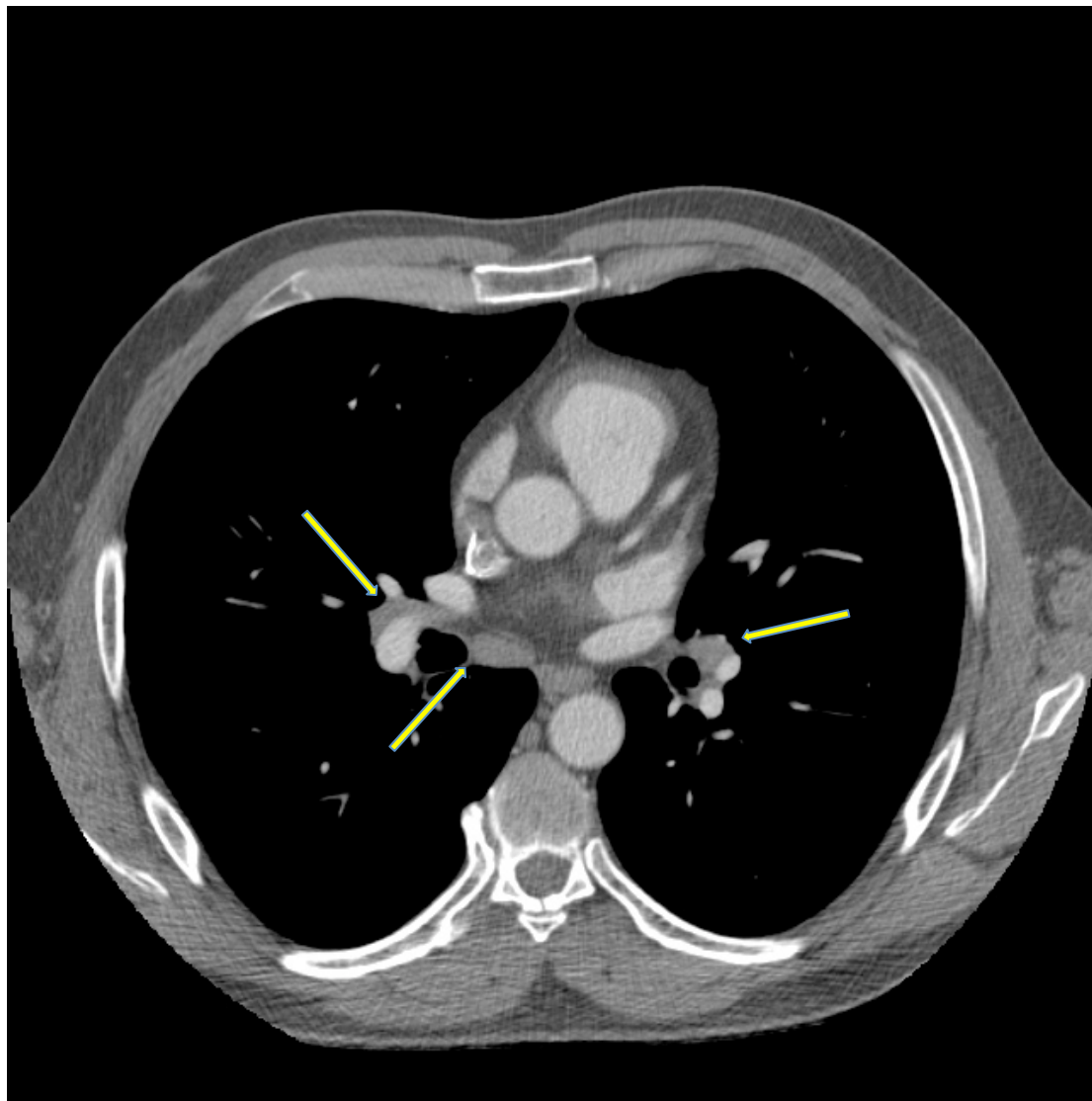
S95%

Spécificité 91%

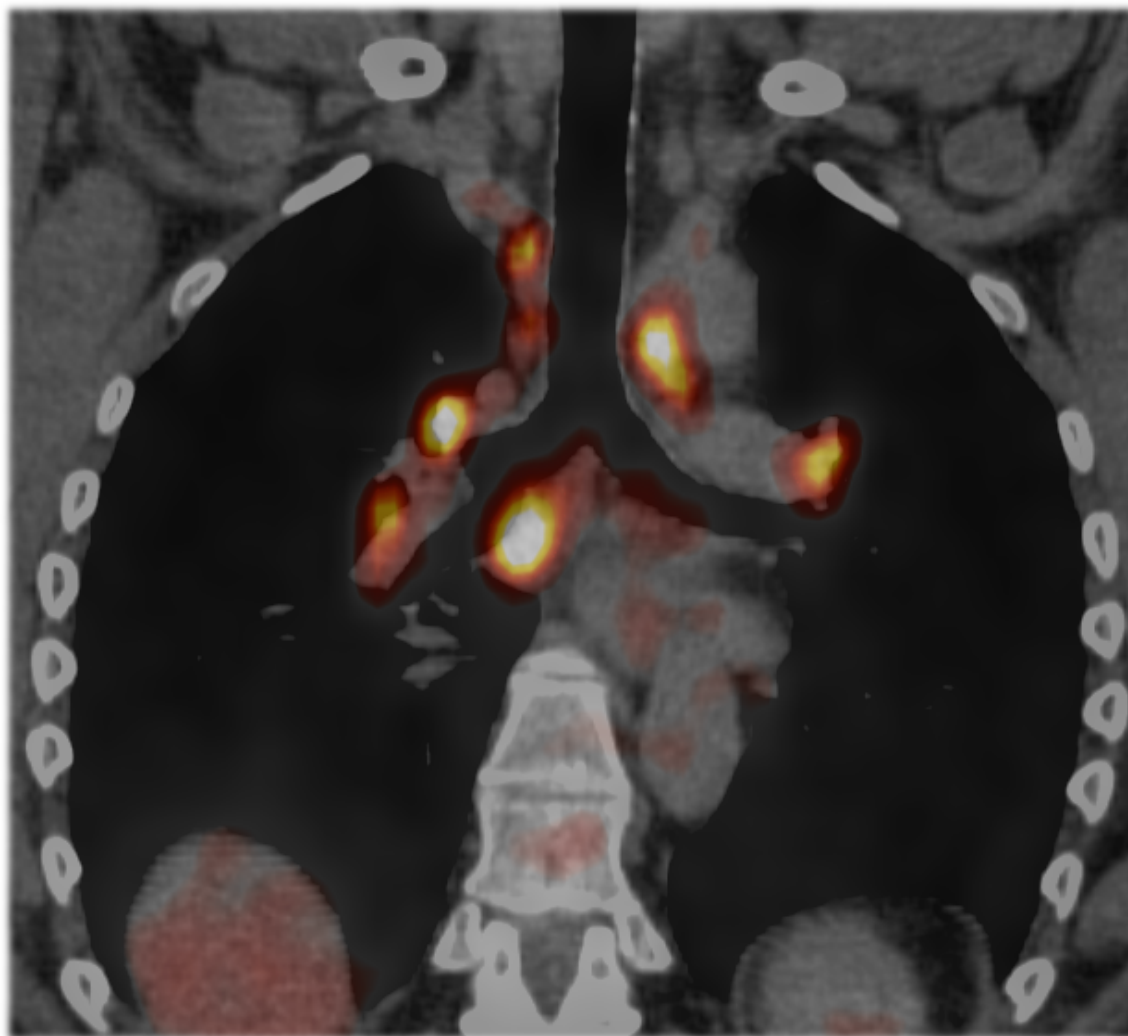
Scanner Thoracique



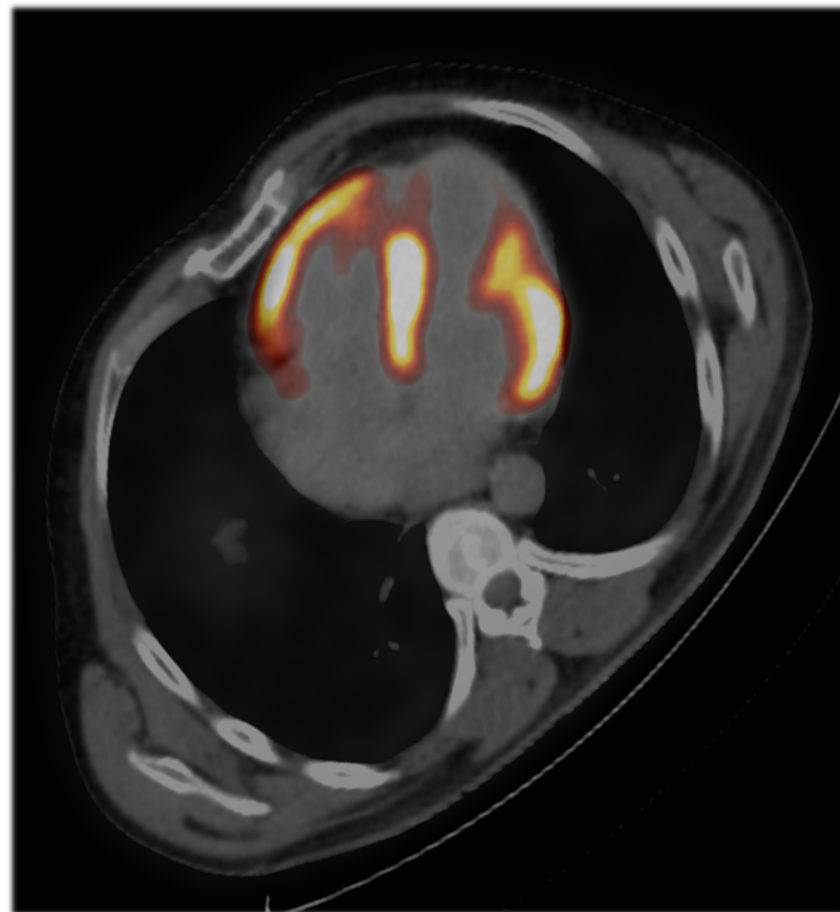
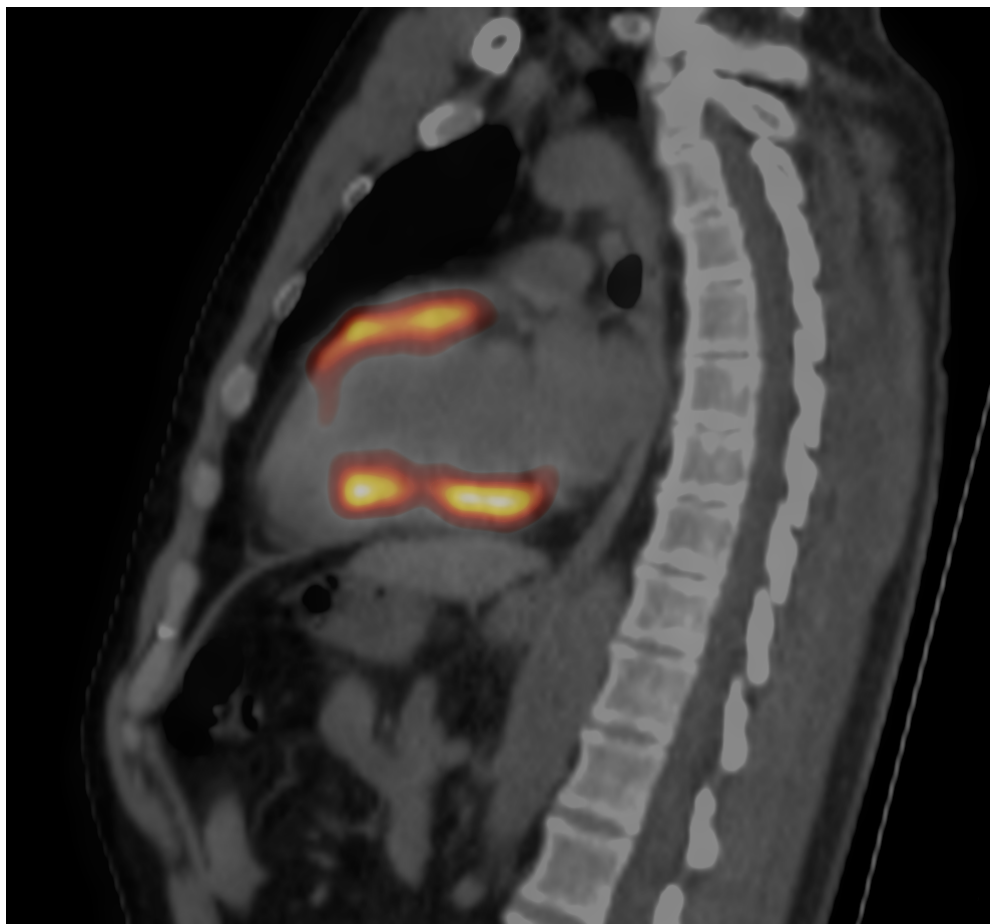
Scanner Thoracique



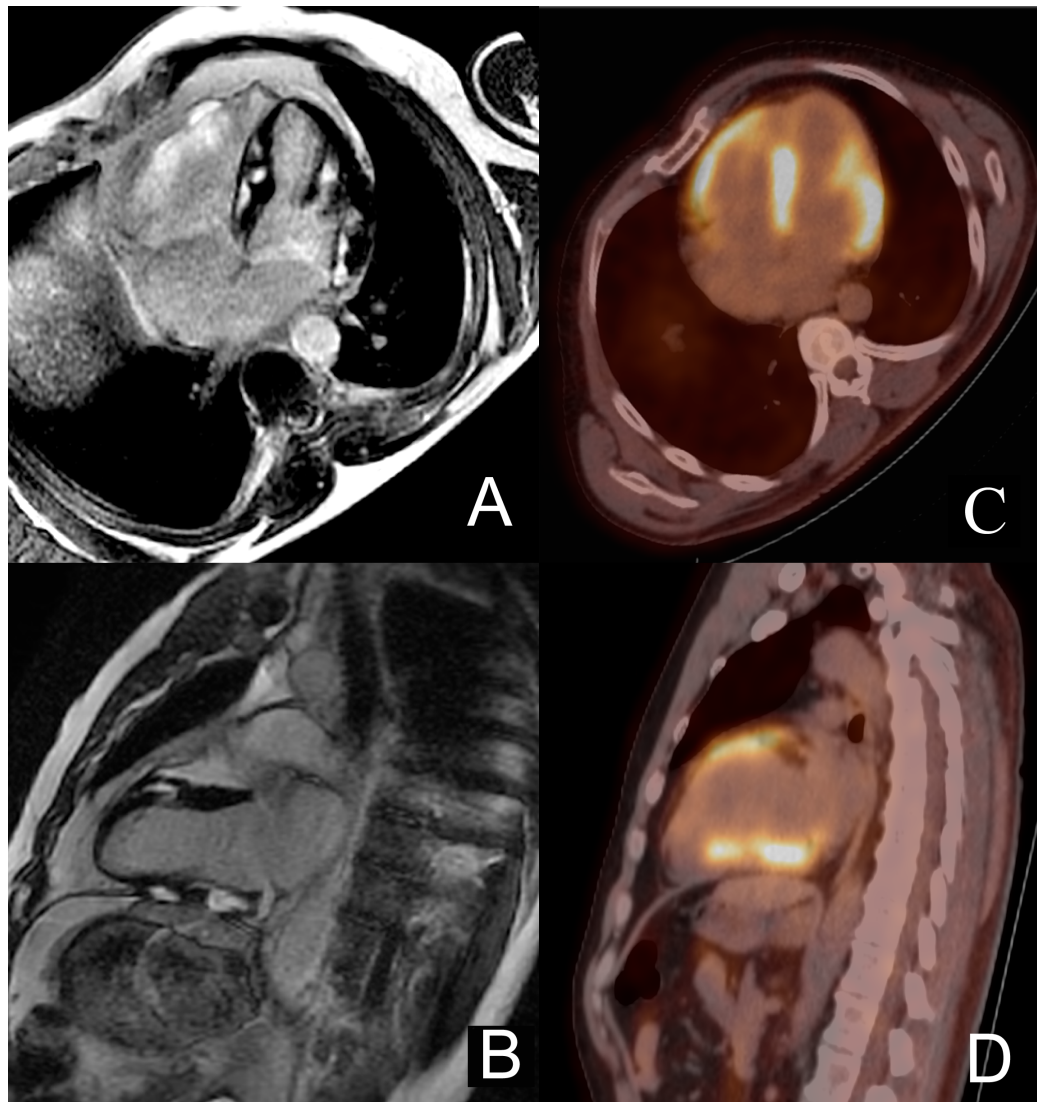
TEP-SCAN



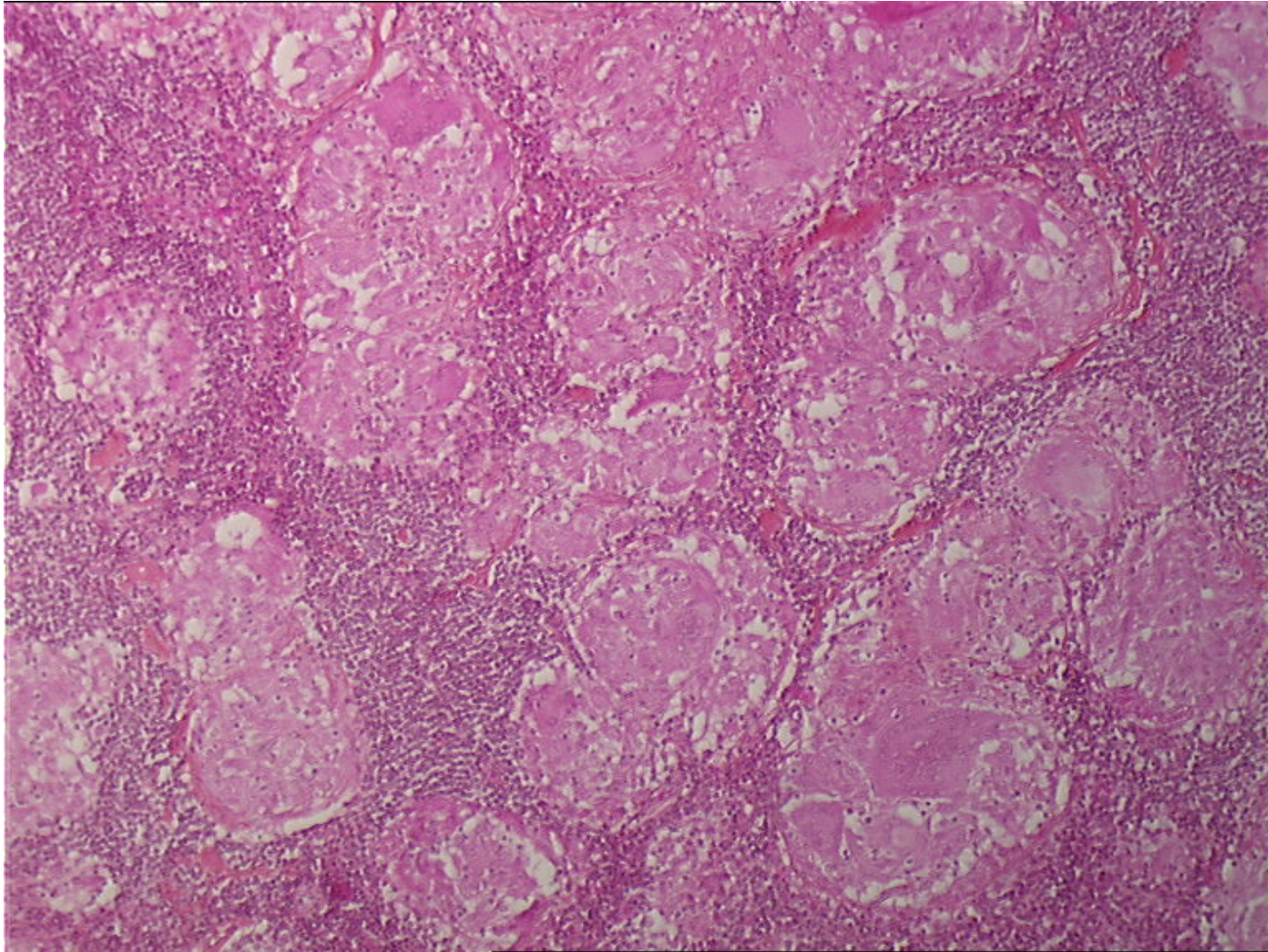
TEP-SCAN



TEP-SCAN



HISTOLOGIE



EVOLUTION

- Traitement immunosuppresseurs:
 - ✓ Bolus corticoïdes
 - ✓ Endoxan en raison de l'atteinte médiastinale
- Entre 2^{ème} et 3^{ème} cure ENDOXAN: TV mal tolérée



DAI



Prospective Study Of Cardiac Sarcoid Mimicking Arrhythmogenic Right Ventricular Dysplasia.

Vasaiwala SC, Finn C, Delpriore J, Leya F, Gagermeier J, Akar JG, Santucci P, Dajani K, Bova D, Picken MM, Basso C, Marcus F, Wilber DJ.

J Cardiovasc Electrophysiol
2009



25 patients suspects de DAVD
16 patients diagnostiqués DAVD (Task Force)
3 sarcoïdoses

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2009



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3 sarcoïdoses

15%

CONCLUSION

- Limites des critères diagnostiques de la DVDA
- Intérêt de l'IRM cardiaque pour différencier DAVD et sarcoïdose
- Recours au PET SCAN en cas de difficultés diagnostiques

