

ACC Latin America Conference 2016

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ÚNICA EXPERIENCIA
EDUCACIONAL EN TU ÁREA



Conference 2016

Choosing the right imaging test for the heart failure patient at the right time: A case-based approach

Clinical Case 1: ACUTE CHAGAS MYOCARDITIS

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President Elect Interamerican Society of Cardiology

Director Fellowship Training in Echocardiography. CES University/Clínica Medellín

ACC – Colombia Chapter Governor

Medellín, Colombia



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Disclosure Information

- I will not discuss off label use or investigational use in my presentation
- I have no financial relationships to disclose



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Clinical Case 1

71 yeras old, resident in the oriental planes of Colombia, tropical region

Present illness: Two weeks duration of Intermittent hyperthermia (38,5 C), disseminated muscle ache, loss of apettite with low food intake, loss of energy, peripheral oedema more marked on both legs

He works in a close environment in an oil refinery known to have ingested food contaminated by mosquitoes dejections of *Trypanosoma cruzi*

At a reference center initial workup disclose a negative fresh blood specimen and serum precipitate

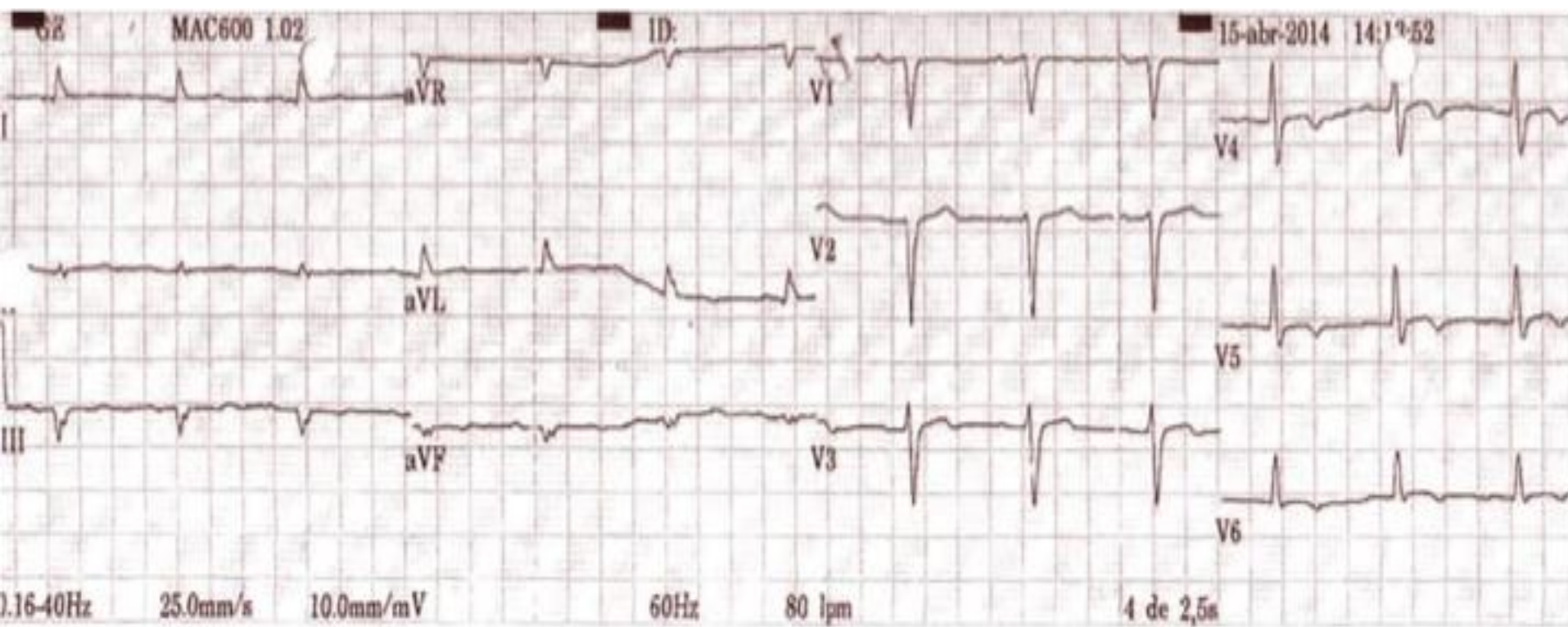
Both tests were repeated two weeks later and turned out positive

He was treated with beznidazole

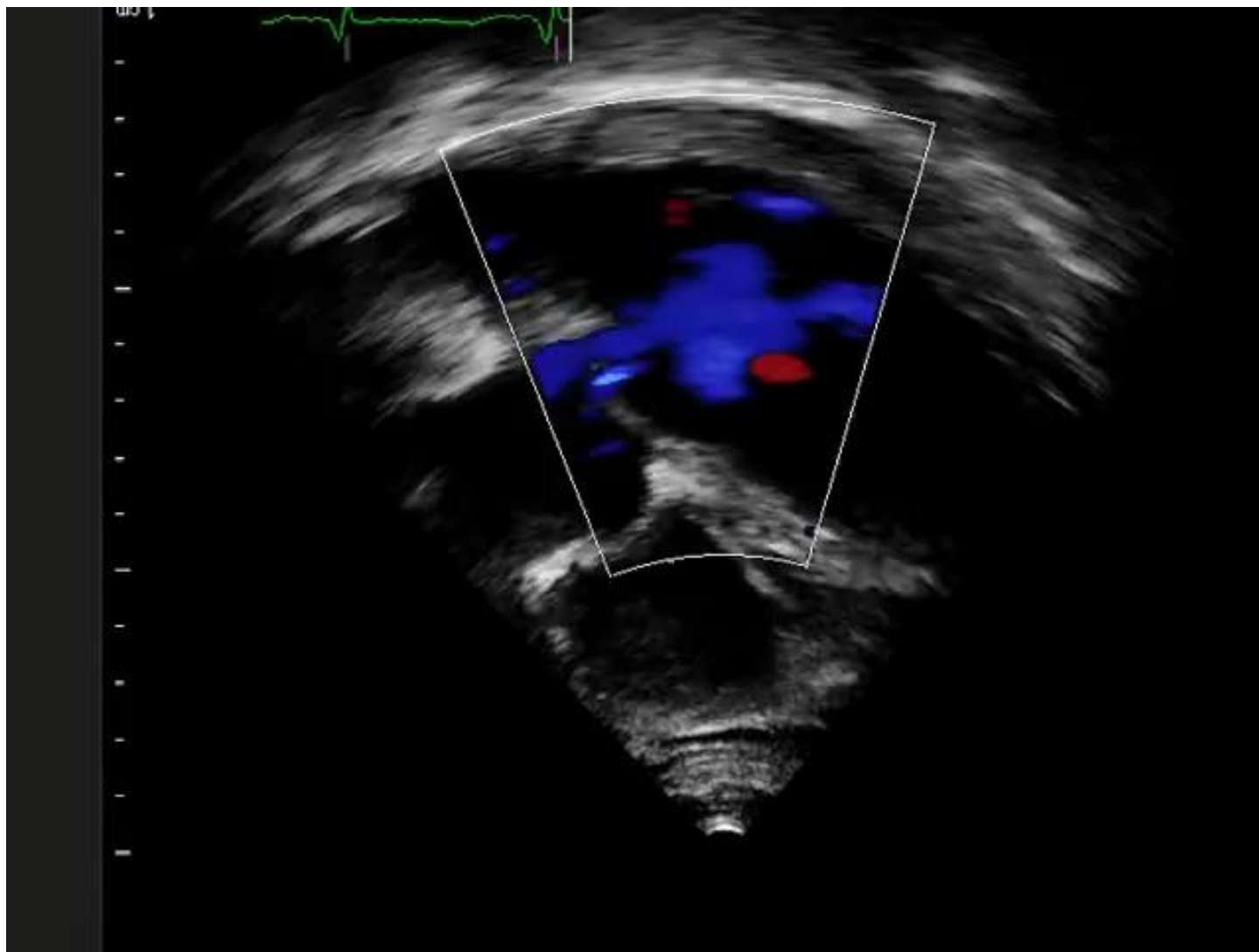


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EKG 1



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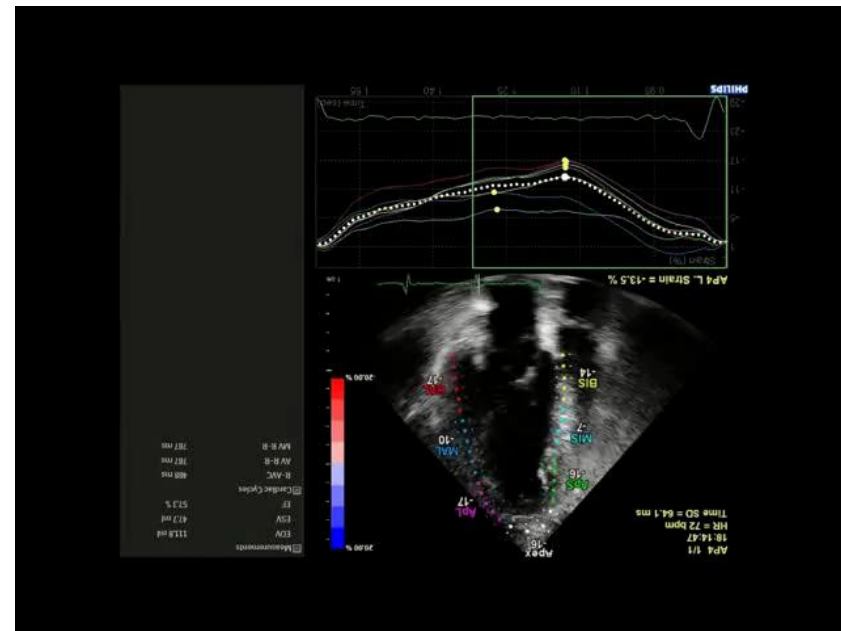


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Long Strain -13,5%, EF 57%



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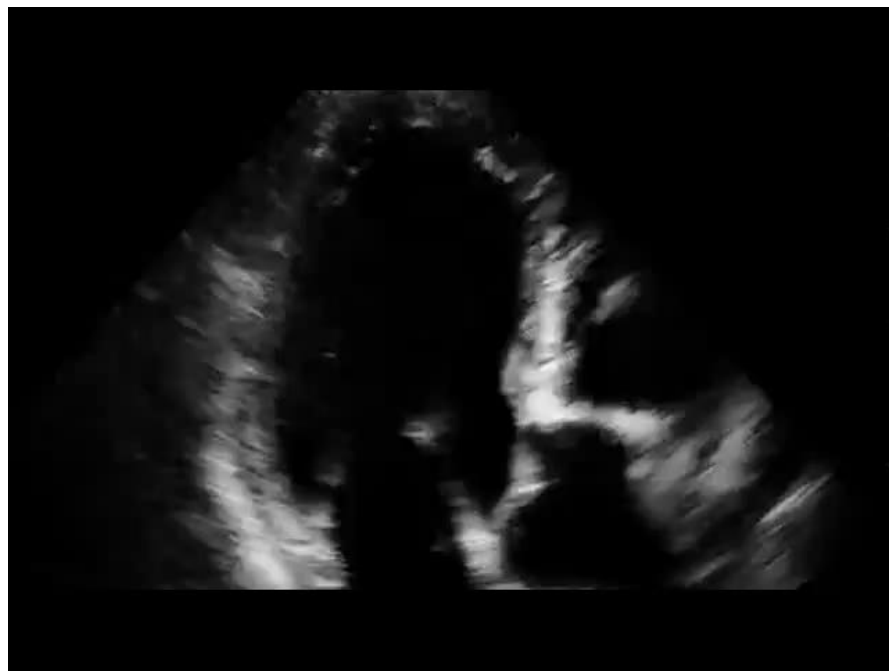


Long Strain -14,6%, EF 57%



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Peak Systolic Strain

HR (Avg.) = 76 bpm

EDV (Bi-Plane) = 111.1 ml

ESV (Bi-Plane) = 45.4 ml

EF (Bi-Plane) = 59.2 %

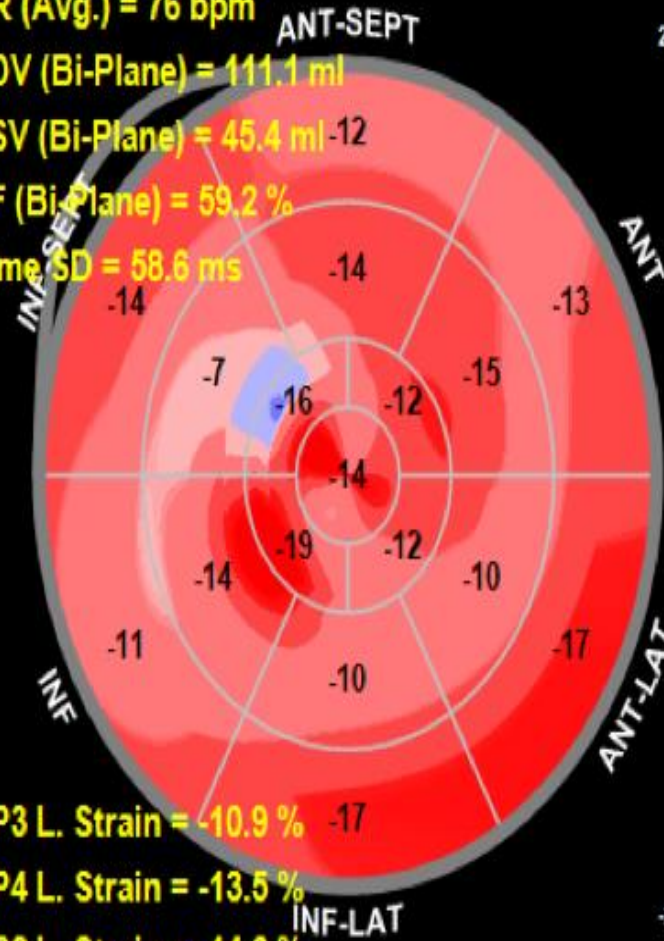
Time SD = 58.6 ms

AP3 L. Strain = -10.9 %

AP4 L. Strain = -13.5 %

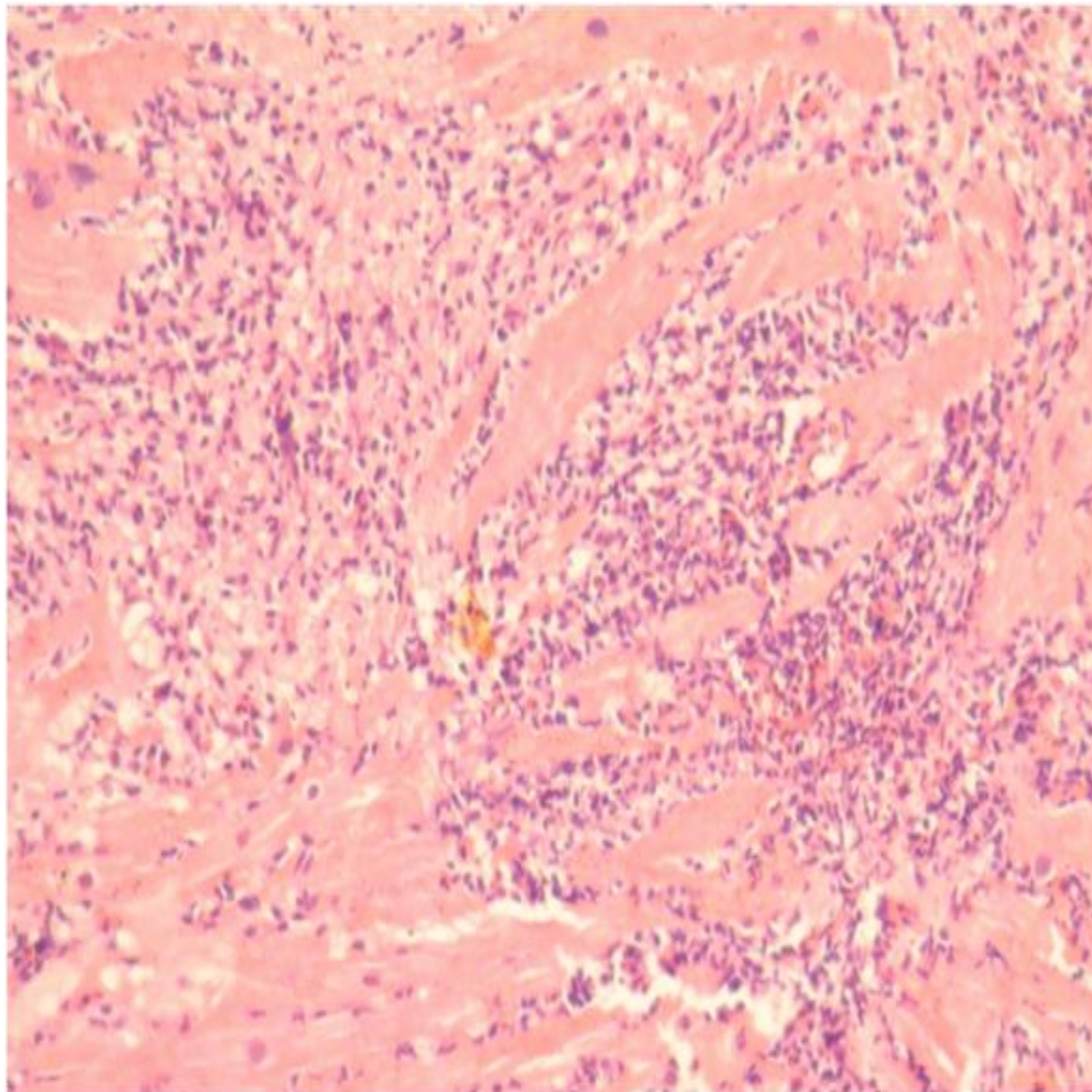
AP2 L. Strain = -14.6 %

Global L. Strain = -12.9 %



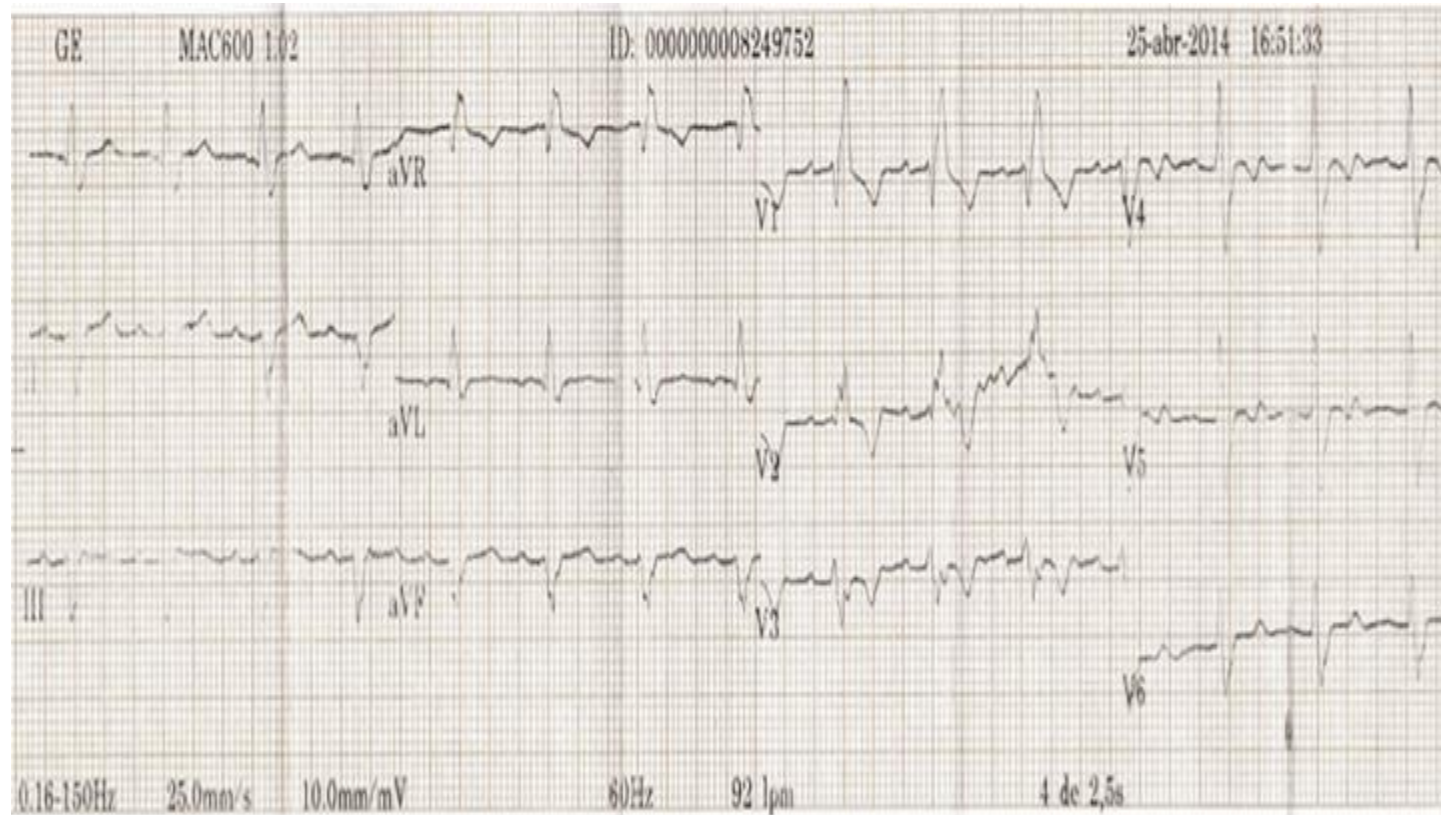
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Endomyocardial Biopsy



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Electrocardiograma a los 10 días del ingreso



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Treatment and follow-up

Benznidazol 5 mg/kg day (150 mg BID) 60 days duration

Patient achieved general improvement

Scheduled: 3 months echocardiogram follow-up



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8 millones de personas
infectadas con *T. cruzi*

25 millones de personas
en riesgo

> 300.000 mil casos en
Estados Unidos

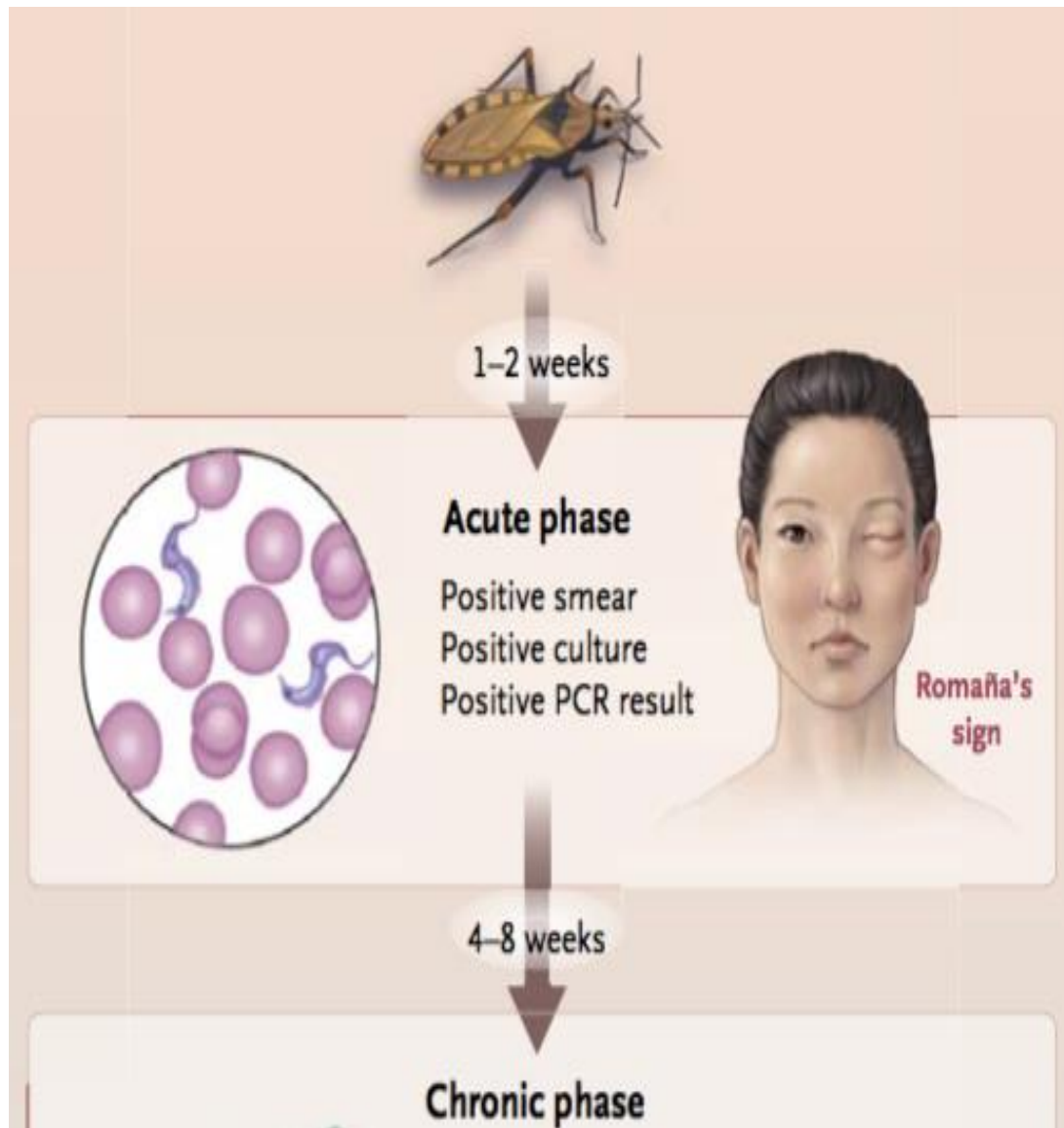
> 50 mil casos en
España

Prevalence of *T. cruzi* Infection

- No data
- Very low (<0.1%)
- Low (0.1–0.9%)
- Moderate (1.0–2.9%)
- High (3.0% or higher)



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Acometimento Cardíaco em Casos de Doença de Chagas Aguda da Amazônia

Cardiac Involvement in Acute Chagas' Disease Cases in the Amazon Region

João Marcos Barbosa-Ferreira¹, Jorge Augusto de Oliveira Guerra², Franklin Simões de Santana Filho², Belisa Maria Lopes Magalhães², Leíla I.A.R.C. Coelho², Maria das Graças Vale Barbosa²

Hospital Universitário Francisca Mendes (UFAM)¹; Fundação de Medicina Tropical do Amazonas², Manaus, AM - Brasil

Arq Bras Card 2010;94(6):e147-e149



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Relato de Caso

Arq Bras Card 2010;94(6):e147-e149

Tabela 1 - Dados clínicos e epidemiológicos dos pacientes

| Nome | Idade | Procedência | Eletrocardiograma | Ecocardiograma |
|------|---------|-------------|-------------------|--------------------------|
| MCLR | 45 anos | Santarém-PA | BDAS | DP moderado |
| FTRJ | 12 anos | Santarém-PA | Normal | DP moderado |
| JRLD | 40 anos | Coari-AM | BRD | Normal |
| JANF | 15 anos | Manaus-AM | EV frequentes | Disf. de VE FEVE= 50% |
| AMO | 46 anos | Anamã-AM | Fibrilação atrial | Normal |

BDAS - bloqueio divisional anterossuperior; DP - derrame pericárdico; BRD - bloqueio de ramo direito; EV - estrassístoles ventriculares; FEVE - fração de ejeção ventricular esquerda.



Choosing the right imaging test for the heart failure patient at the right time: A case-based approach

- Clinical case 2

CHRONIC CHAGASIC CARDIOMYOPATHY

Gustavo Restrepo MD.



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Clinical case 2

63 years old, male, with progressive functional deterioration (NYHA III/IV), chest pain and palpitations

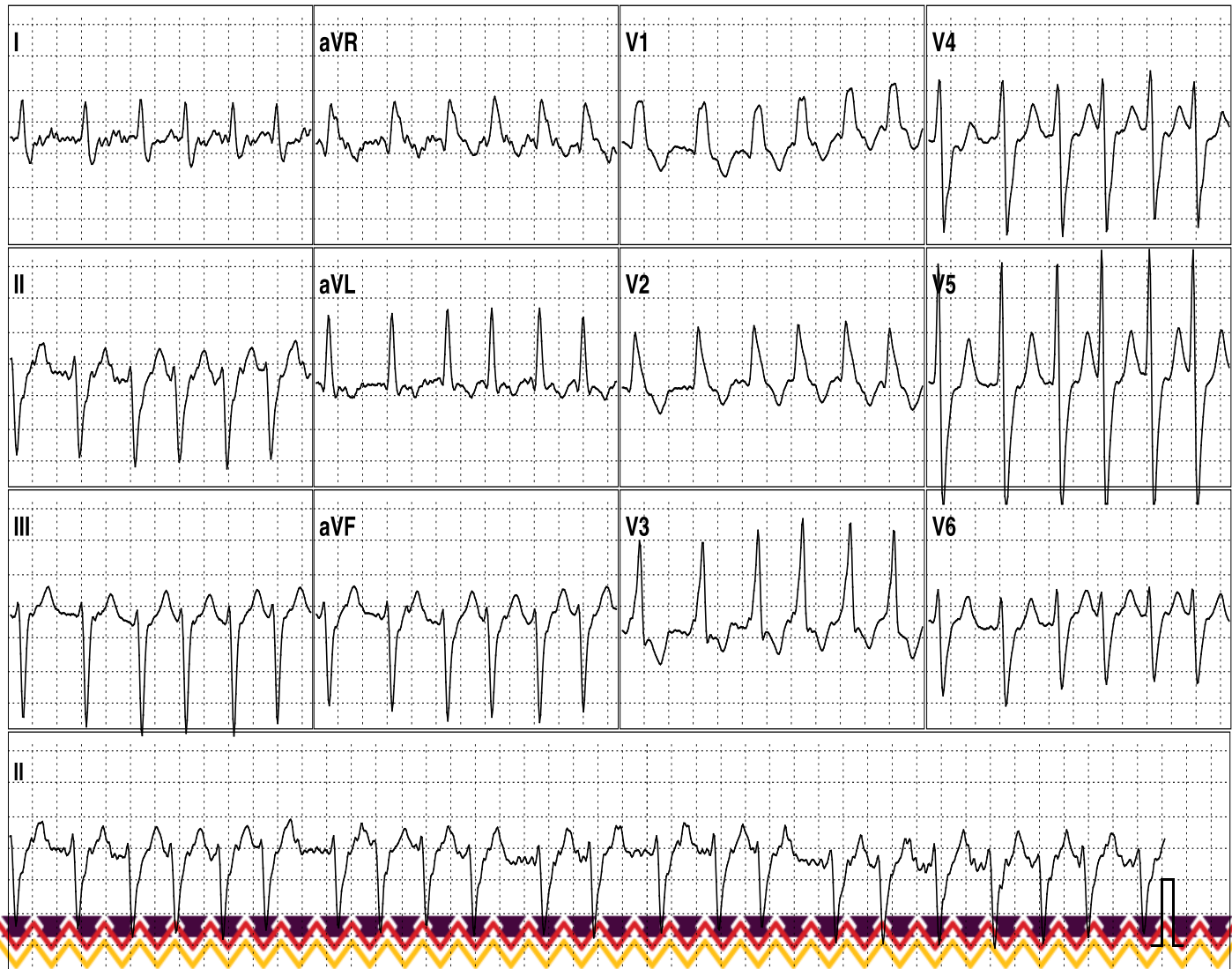
PMH: Second degree AV Block Mobitz II, requiring permanent bicameral pacemaker implanted two years ago.

Other comorbidities included HBP, NIDDM and hypothyroidism



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Clinical case 2 - EKG

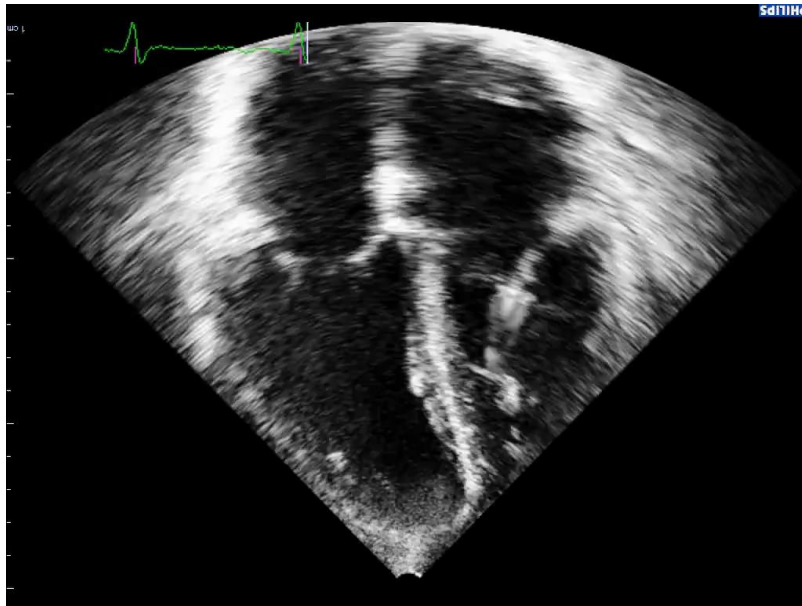


Clinical Case 2

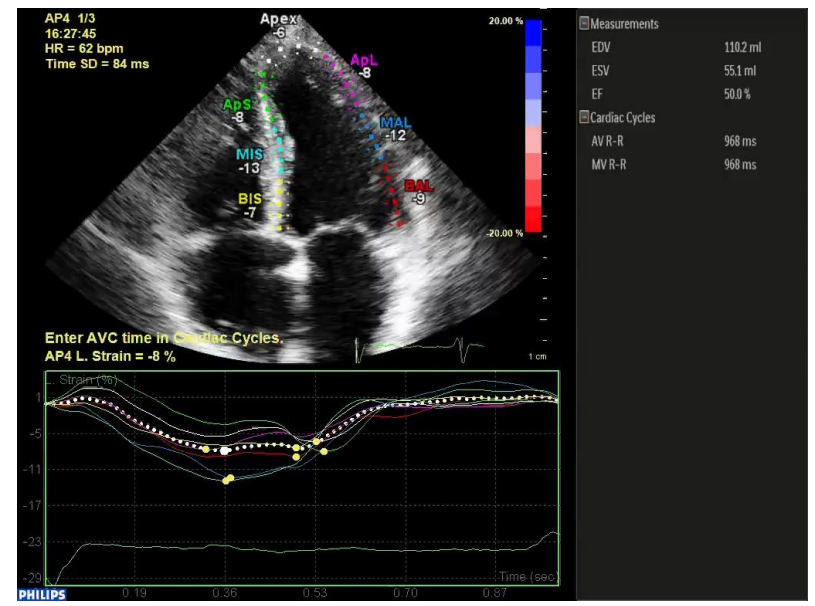
- Troponina I Ultrasensible: 0.5 (Positive)
- BNP: 450 pg.
- Chagas serology:
ELISA *Trypanosoma Cruzi*: 0.8
IFI: dilution 1:64
- Coronary angiography without lesions



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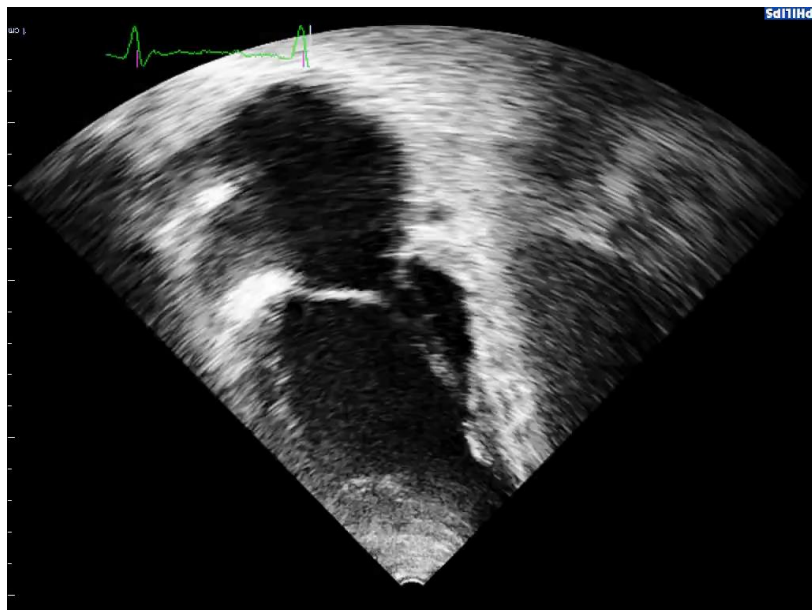
1



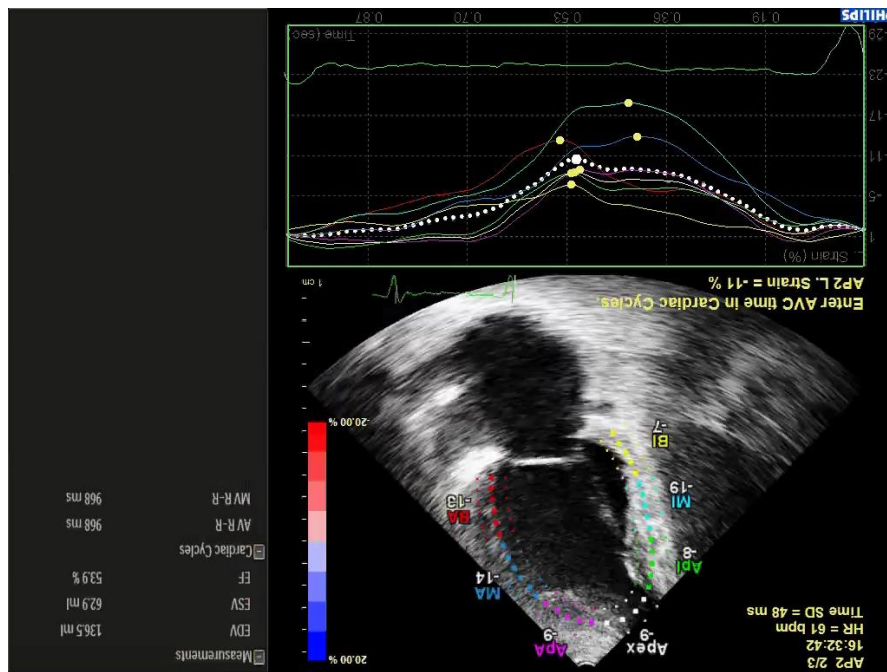
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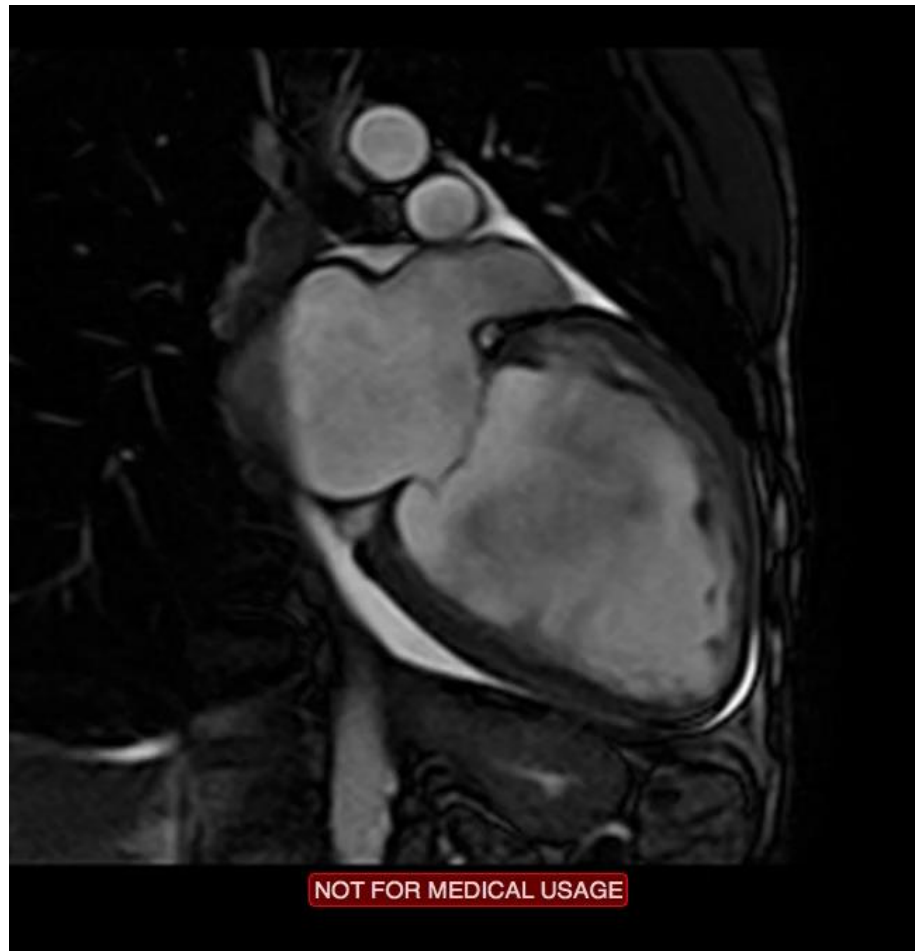


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Peak Systolic Strain

HR (Avg.) = 62 bpm

EF (Bi-Plane) = 52 %

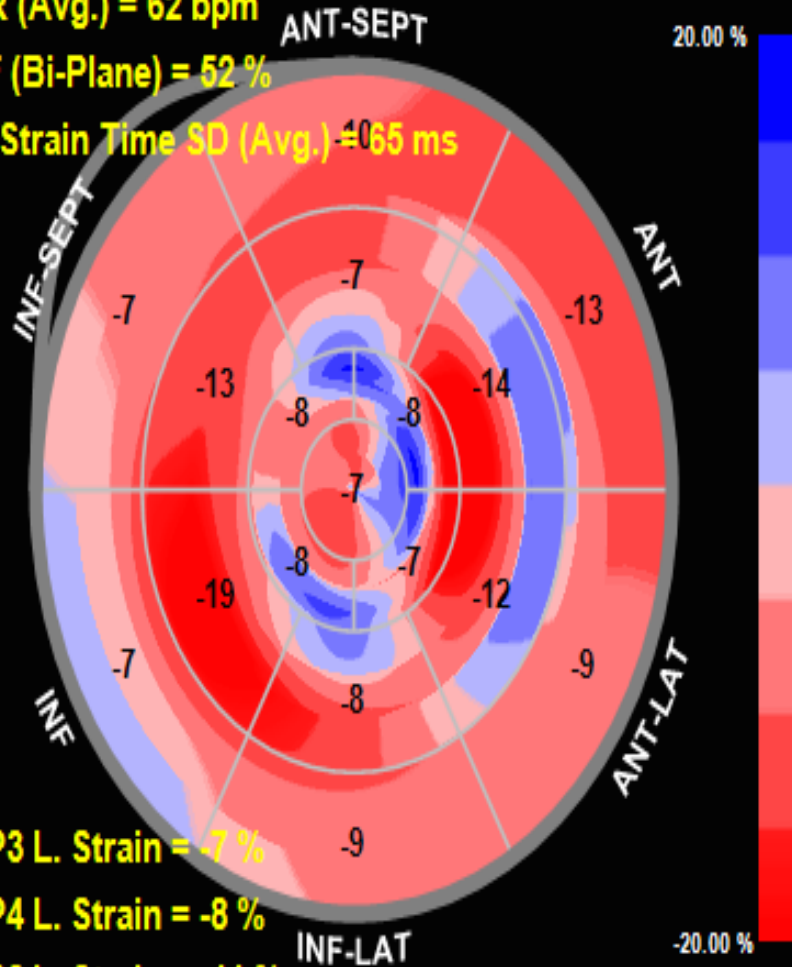
L. Strain Time SD (Avg.) = 65 ms

AP3 L. Strain = -7 %

AP4 L. Strain = -8 %

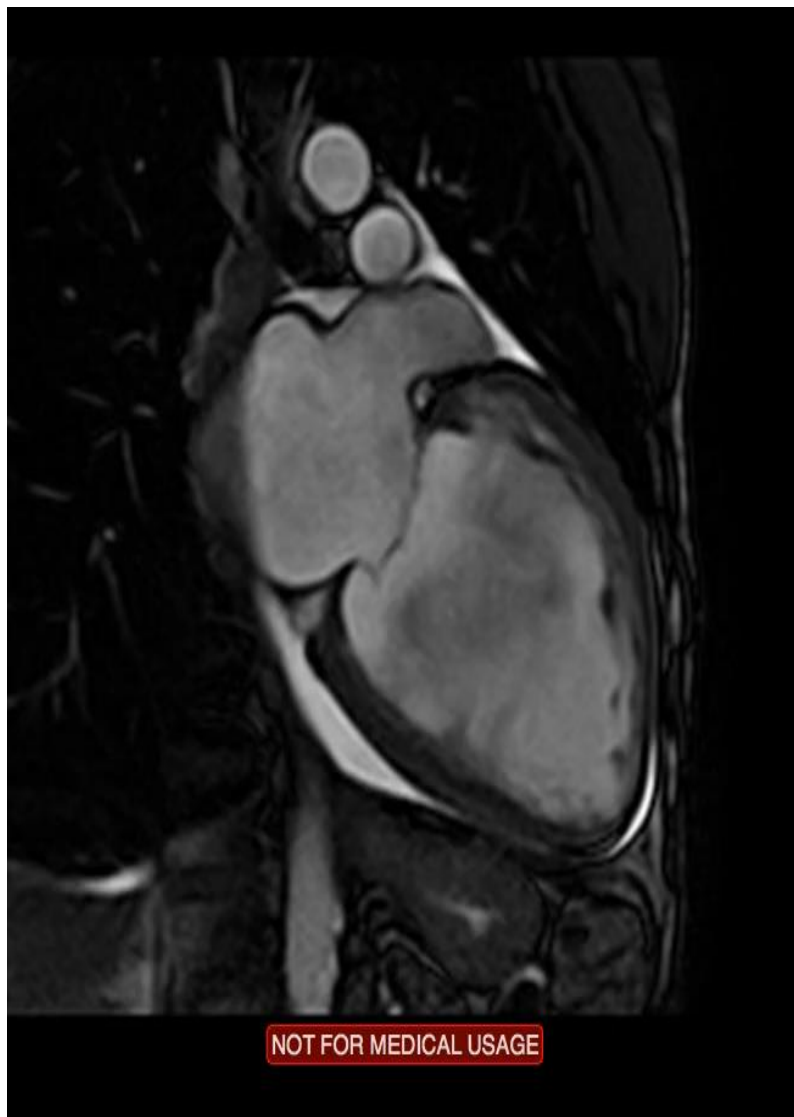
AP2 L. Strain = -11 %

Global L. Strain = -9 %

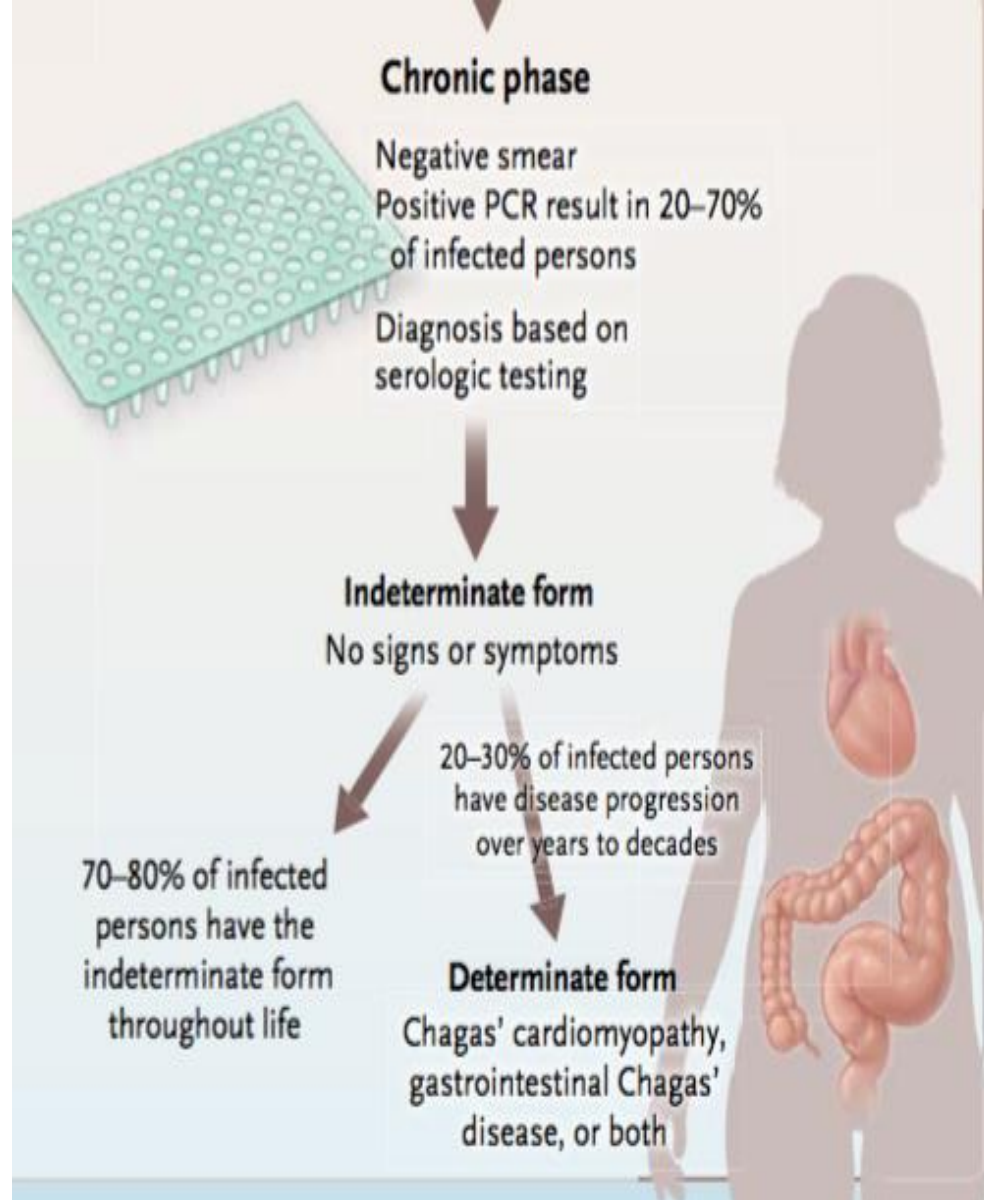


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Early Detection of Left Ventricular Contractility Abnormalities by Two-Dimensional Speckle Tracking Strain in Chagas' Disease

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Comprehensive left ventricular mechanics analysis by speckle tracking echocardiography in Chagas disease

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Abstract

Background: Chagas disease (CD) is a frequent cause of dilated cardiomyopathy (CMP) in developing countries, leading to clinical heart failure and worse prognosis. Therefore, the development and evolution of this CMP has always been a major topic in numbers of previous studies. A comprehensive echocardiographic study of left ventricular (LV) mechanics, fully assessing myocardial contraction, has never been done before. This could help characterize and improve the understanding of the evolution of this prevalent CMP.

Methods: A total of 47 chagasic and 84 control patients were included in this study and allocated in groups according to LV ejection fraction. 2D-Echocardiogram was acquired for LV mechanics analysis by speckle tracking echocardiography.

Results: Mean age of chagasic individuals was 55y and 16 (34 %) were men. Significant difference was found in global longitudinal velocity analysis, with lower values in indeterminate form. In the group with severe systolic dysfunction, a paradoxical increase in longitudinal and apical radial displacements were demonstrated. In parallel, segmental analyzes highlighted lower values of radial displacement, strain and strain rate into inferior and inferolateral walls, with increase of these values in septal and anterior walls.

Conclusion: Chagasic CMP has a vicarious pattern of contraction in the course of its evolution, defined by reduced displacement and strain into inferior and posterior walls with paradoxical increase in septal and anterior segments. Also, lower longitudinal velocities were demonstrated in CD indeterminate form, which may indicate an incipient myocardial injury.

Keywords: Speckle tracking echocardiography, Cardiomyopathies, Cardiac mechanics, Strain

Journal of Cardiac Failure 2011,17:

Myocardial Deformation Analysis in Chagas Heart Disease With the Use of Speckle Tracking Echocardiography

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Chronic Heart Disease after Treatment of Oral Acute Chagas Disease

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Hospital Universitário Francisca Mendes¹; Universidade Estadual do Amazonas (UEA)²; Fundação de Medicina Tropical Heitor Vieira Dourado³, Manaus, AM – Brazil

Abstract

We describe the recurrence of cardiac abnormalities in a patient treated during the acute phase of Chagas disease after outpatient follow-up of 5 years.

mild left ventricular dysfunction with ejection fraction of 50%. He was treated for heart failure with captopril, carvedilol and furosemide, as well as for Chagas disease, with benznidazole for 60 days. When the treatment was finished, the patient became asymptomatic and heart tests were normal. He also



New England Journal of Medicine 2014; 370: 1899-908

Randomized Trial of Posaconazole and Benznidazole for Chronic Chagas' Disease

Israel Molina, M.D., Jordi Gómez i Prat, M.D., Fernando Salvador, M.D.,
Begoña Treviño, M.D., Elena Sulleiro, M.D., Núria Serre, M.D., Diana Pou, M.D.,
Sílvia Roure, M.D., Juan Cabezos, M.D., Lluís Valerio, Ph.D.,
Albert Blanco-Grau, M.D., Adrián Sánchez-Montalvá, M.D.,
Xavier Vidal, Ph.D., and Albert Pahissa, Ph.D.

New England Journal of Medicine 2015; 373: 1295-306

Randomized Trial of Benznidazole for Chronic Chagas' Cardiomyopathy

C.A. Morillo, J.A. Marin-Neto, A. Avezum, S. Sosa-Estani, A. Rassi, Jr., F. Rosas, E. Villena, R. Quiroz, R. Bonilla,
C. Britto, F. Guhl, E. Velazquez, L. Bonilla, B. Meeks, P. Rao-Melacini, J. Pogue, A. Mattos, J. Lazdins, A. Rassi,
S.J. Connolly, and S. Yusuf, for the BENEFIT Investigators*



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