ACC Latin America Conference 2016

MEXICO CITY
OCTOBER 7 - 8, 2016

For more information, visit
ACC.org/LatinAmerica2016

ÚNICA EXPERIENCIA EDUCACIONAL EN TU ÁREA
Choosing the right imaging test for the heart failure patient at the right time: A case-based approach

Clinical Case 1: ACUTE CHAGAS MYOCARDITIS

Gustavo Restrepo MD.
President Elect Interamerican Society of Cardiology
Director Fellowship Training in Echocardiography. CES University/Clínica Medellín
ACC – Colombia Chapter Governor
Medellín, Colombia
Disclosure Information

• I will not discuss off label use or investigational use in my presentation

• I have no financial relationships to disclose
Clinical Case 1

71 years 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 appetite 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
Long Strain -13.5%, EF 57%
Long Strain -14.6%, EF 57%
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 %
Electrocardiograma a los 10 días del ingreso
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
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
1–2 weeks

Acute phase
- Positive smear
- Positive culture
- Positive PCR result

Romaña's sign

4–8 weeks

Chronic phase
Relato de Caso

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, Leila I.A.R.C. Coelho², Maria das Graças Vale Barbosa²

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

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

Tabela 1 - Dados clínicos e epidemiológicos dos pacientes

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

BDAS - bloqueio divisional anterossuperior; DP - derrame pericárdico; BRD - bloqueio de ramo direito; EV - estraassístoles 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.
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
Clinical Case 2

- Troponina I Ultrasensible: 0.5 (Positive)

- BNP: 450 pg.

- Chagas serology:
  ELISA Tripamosoma Cruzi: 0.8
  IFI: dilution 1:64

- Coronary angiography without lesions
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 %
Chronic phase
Negative smear
Positive PCR result in 20–70% of infected persons
Diagnosis based on serologic testing

Indeterminate form
No signs or symptoms

20–30% of infected persons have disease progression over years to decades

Determinate form
Chagas’ cardiomyopathy, gastrointestinal Chagas’ disease, or both

70–80% of infected persons have the indeterminate form throughout life
Early Detection of Left Ventricular Contractility Abnormalities by Two-Dimensional Speckle Tracking Strain in Chagas’ Disease

Marcia M Barbosa, M.D., Ph.D.,* Manoel O Costa Rocha, M.D., Ph.D.,† Daniel Furtado Vidigal, M.D.,† Renata de Carvalho Bicalho Carneiro, M.D.,† Rafaela Drumond Araújo, M.D.,† Mariana Campos Palma, M.D.,† Marcio Vinicius Lins de Barros, M.D., Ph.D.,† and Maria Carmo P Nunes, M.D., Ph.D.†

*Cardiology, Ecocenter Hospital Socor, Belo Horizonte, Brazil; and †Post-Graduate Program in Infectious Diseases and Tropical Medicine, School of Medicine, Federal University of Minas Gerais, Belo Horizonte, Brazil
Comprehensive left ventricular mechanics analysis by speckle tracking echocardiography in Chagas disease

Marcio Silva Miguel Lima¹*, Hector R. Villarraga², Maria Cristina Donadio Abduch¹, Marta Fernandes Lima¹, Cecilia Beatriz Bittencourt Viana Cruz¹, Marcio Sommer Bittencourt¹, Mariana Callil Voos¹, Joao Cesar Nunes Sbano¹, Wilson Mathias Jr¹ and Jeane Mike Tsutsui¹
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
Myocardial Deformation Analysis in Chagas Heart Disease With the Use of Speckle Tracking Echocardiography

ANA GARCÍA-ÁLVAREZ, MD, MARTA SITGES, MD, PhD, ANDER REGUEIRO, MD, SILVIA POYATOS, MARIA JESUS PINAZO, MD, ELISABETH POSADA, BART BIJNENS, MAGDA HERAS, MD, PhD, JOAQUIM GASCON, MD, PhD, AND GINÉS SANZ, MD, PhD

Barcelona and Madrid, Spain
Chronic Heart Disease after Treatment of Oral Acute Chagas Disease

Andrei Fornanciari Antunes¹, Simão Gonçalves Maduro¹, Bruna Valessa Moutinho Pereira², Maria das Graças Vale Barbosa²-³, Jorge Augusto de Oliveira Guerra³, João Marcos Bemfica Barbosa Ferreira¹,²
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
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.

Randomized Trial of Benznidazole for Chronic Chagas’ Cardiomyopathy