Educational *Programme on Transplant Infectious Diseases*

25 - 26 April 2014 - São Paulo, Brazil

Clinical Case

Chagas' reactivation in a heart transplant patient

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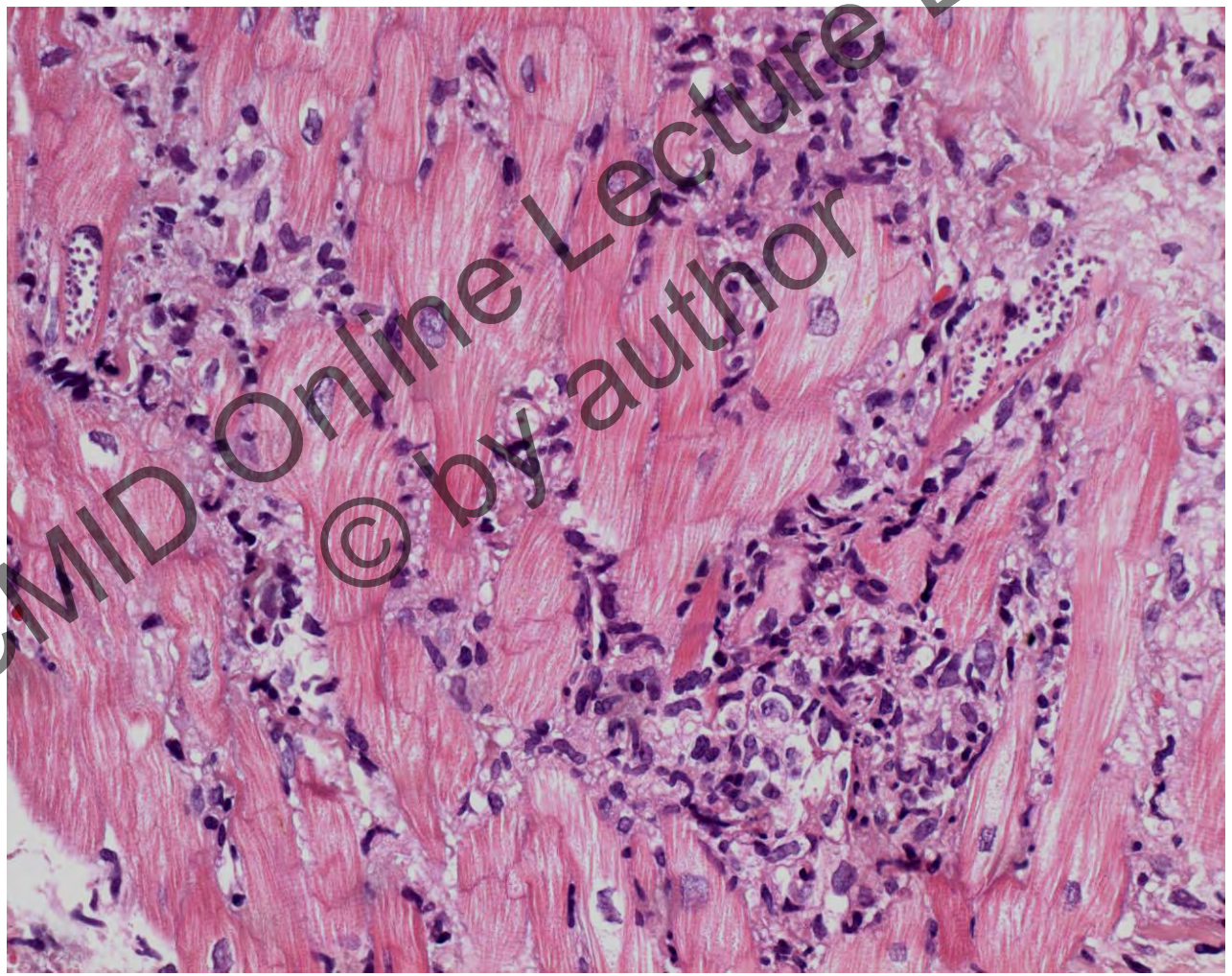
Clinical case

- A 51-year-old man, diabetes, hypertension
- **Heart transplantation due to Chagas' cardiomyopathy**
  - July, 2013
  - Heart Institute (InCor)
- Immunosuppression
  - Methylprednisolone
  - cyclosporine, azathioprine, prednisone
- Postoperative infection: none
- Prophylaxis: none
- CMV antigenemia: negative
- Endomyocardial biopsy: no rejection
- Discharged on day 23+

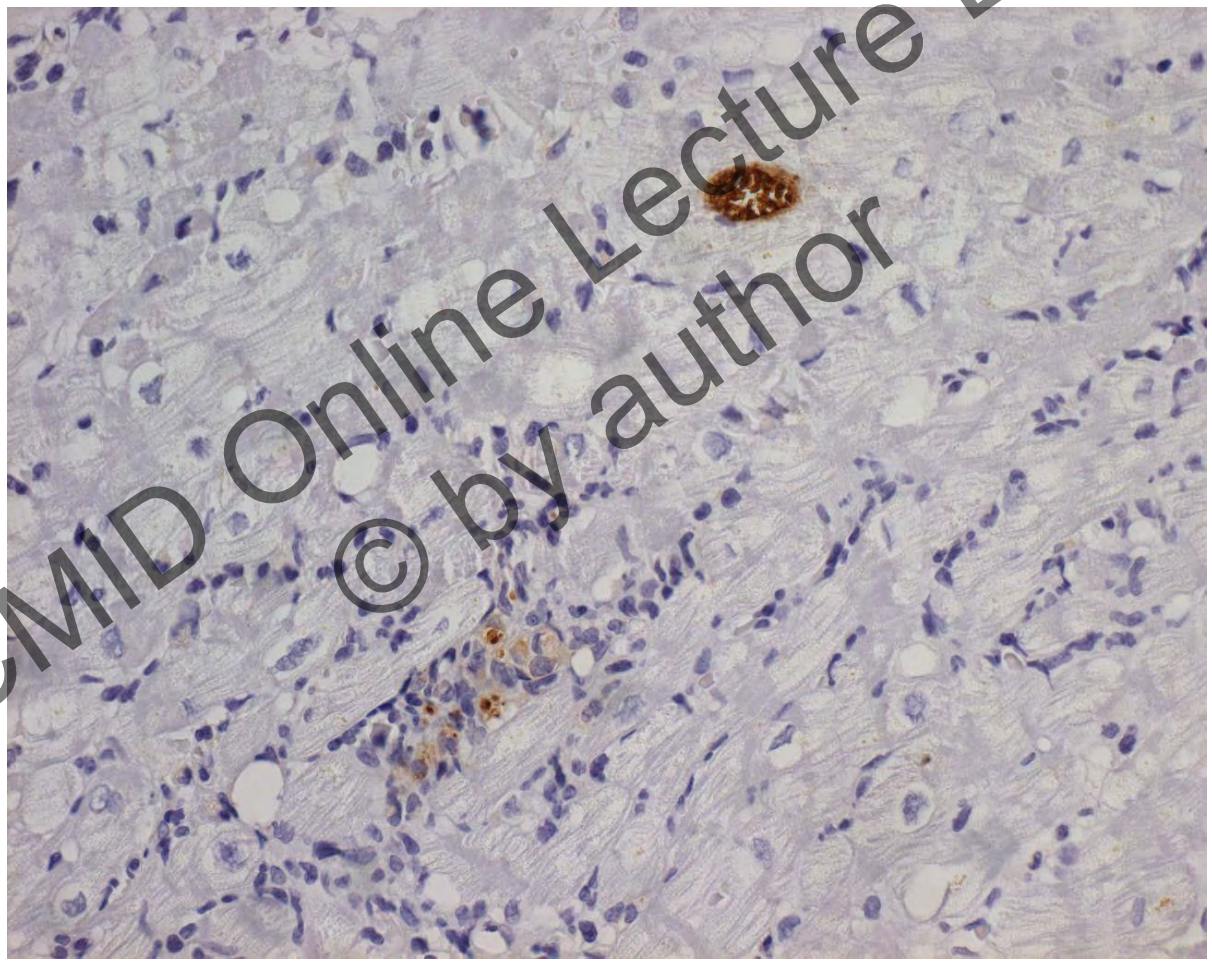
Clinical case

- Hospital admission on day 60+
- Celullitis in left leg, no fever
  - Vancomycin – 4 days; teicoplanin – 10 days
- Routine endomyocardial biopsy revealed lymphocytic myocarditis with the presence of *T. cruzi* amastigotes
- No clinical signs or symptoms of congestive heart failure
- Ecocardiography – ejection fraction=65%
- Patient was treated with benznidazole 10mg/kg/day for 60 days

Endomyocardial biopsy specimen (HE stain)



Endomyocardial biopsy specimen (immunohistochemistry



Clinical case

- Endomyocardial biopsy was repeated after 20 days: chronic mononuclear myocarditis with interstitial fibrosis and no parasites
- Patient was discharged from hospital using cyclosporine (100mg 12/12h), prednisone 20mg/d, azathioprine 120mg/day (reduced dose)
- CMV antigenemia – negative (repeated twice during hospital stay)

Clinical case

- EB (november 2013) revealed acute rejection (2R AMR 0) and the patient was **readmitted for treatment**
- Methylprednisolone 500mg IV for 3 days
- MMF, tacrolimus, prednisone
- Patient was discharged after a new EB was free of rejection signs.

Discussion

- This was a case of Chagas' disease reactivation after heart transplantation.
- Frequency at our hospital = 26,5%
- Risk factors associated with reactivation → events resulting in greater immunossuppresson status

Discussion

Risk factors:

- Number of rejection episodes (p=0,011)
- Neoplams (p=0,009)
- Use of mycophenolate mofetil (p=0,049) – azathioprine or low dosis MMF

•Campos SV, Strabelli TMV et als. Risk factors for Chagas' disease reactivation after heart transplantation. J Heart Lung Transplant, 2008

•Bacal F, Silva CP et als. Mychophenolate Mofetil Increased Chagas Disease Reactivation in Heart Transplanted Patients:Comparison Between Two Different Protocols. Am J Transplant , 2005.

Discussion

Chagas' disease reactivation presentations:

- Cutaneous lesions
- Myocarditis
- Central nervous system lesions are infrequent in heart transplants

The diagnosis of reactivation requires detection of circulating trypomastigotes in the peripheral blood; quantitative polymerase chain reaction (PCR) on serial specimens is a useful technique to show rising parasite load. It provides the earliest and most sensitive indicator of reactivation.

•**Bacal F, Silva CP et als. Mychophenolate Mofetil Increased Chagas Disease Reactivation in Heart Transplanted Patients:Comparison Between Two Different Protocols. Am J Transplant , 2005.**

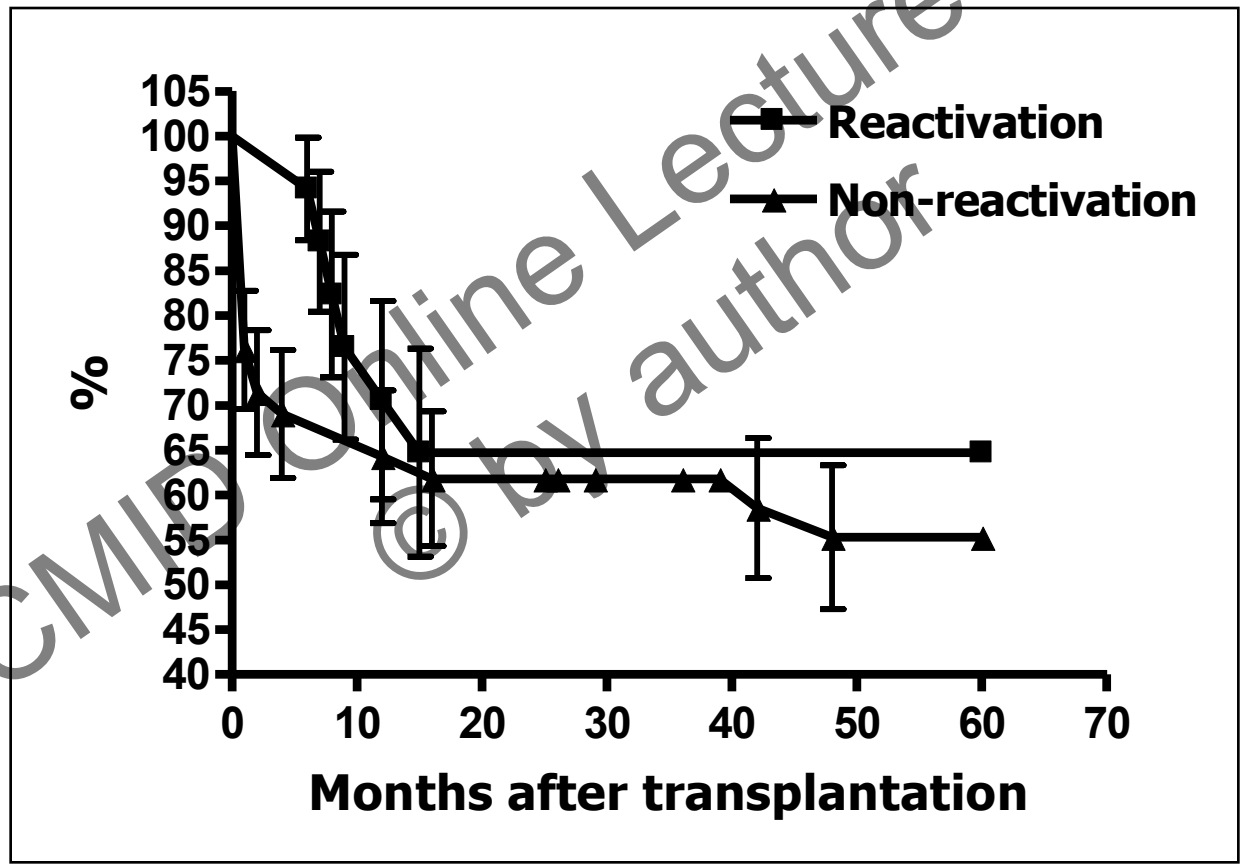
Discussion

Monitoring heart transplant patients at regular intervals and after treating rejection episodes

Treatment options

- Benznidazol
- Allopurinol
- Nifurtimox

Survival curve for Chagas' disease reactivation group x non-reactivation group (Kaplan-Meier method; p = 0,46 Longrank test).



Campos SV, Strabelli TMV et als. Risk factors for Chagas' disease reactivation after heart transplantation. J Heart Lung Transplant, 2008

Summary

- Chagas' disease is a common cause of heart failure in Brazil
- Chronic disease could reactivate after periods of higher immunossupression, but treatment is very efficient and safe in heart transplant recipients
- We have to define better methods to monitor disease reactivation and always look for the parasite in tissues.

THANK YOU FOR ATTENTION!