Kidney Transplantation Patient with discordant diagnostic tests for Chagas disease: Case Report

Authors: Juliana J G Ferreira[1], Jamiro S Wanderley[1], Luiz Claudio Martins[1], Glaucia E B Marco[2], Marilda Mazzali[1], Sandra C B Costa[1], Eros A Almeida[1].

[1] Department of Medical Clinic, Medical Sciences School, Campinas State University, 126, Tessália Vieira de Camargo Street, Campinas, São Paulo, Brazil.

[2] Oswaldo Cruz Foundation, 92, Gabriel Abrão Street, Campo Grande, Mato Grosso do Sul, Brazil.

Abstract

Chagas disease (CD) is caused by flagellated protozoan *Trypanosoma cruzi* and presents a complex cycle, which involves triatomine bugs vectors. In some countries, this transmission path was considered controlled by control measures of the domiciliary vector. Nowadays, it is been given great attention to the form of transmission: congenital, transfusion, organs transplants, oral and laboratory accidents. The serological screening is used since then in blood banks and before the organ transplant. In order to monitor the Chagas disease reactivation in transplanted patients, it is recommended direct parasitological tests, which detected blood parasites, as microscopic analysis by direct fresh test (thick drop or smears), analysis of cream leukocyte after centrifugation, micro hematocrit and histopathological examination of tissue lesions. The molecular assay polymerase chain reaction (PCR) has been used as an auxiliary method it has been proved a technical with good sensibility and specificity, capable of detecting the DNA of parasite in peripheral blood. The objective is to describe a case of a kidney transplantation patient, which had inconclusive diagnostic of Chagas disease by different methods but had clinical signals of disease reactivation. The patient was attended on the GedoCh – Unicamp (Study group in Chagas disease – Campinas State University) and on the Nephrology Ambulatory of Campinas State University. The serological tests were accomplished through the Clinical Pathology staff. We collected your blood for analysis by *nested* polymerase chain reaction, with primers TCZ3 and TCZ4, which amplifying 149 bases pairs. We analyzed your medical chart for a data collection. The pre-transplants serological tests was discordant for the

CD, being ELISA test (enzyme-linked immunosorbent assay) nonreactive and the IIF (indirect immunofluorescent) reactive in title 1/160. After the transplant, the serological tests became nonreactive, the direct parasitological tests (fresh blood, coloring, and Strout), as a xenodiagnostic were negative and the *nested* polymerase chain reaction (NPCR) was positive in two samples collected on different dates. The serological results for leishmaniasis were nonreactive. Five months post-transplant, the patient presented cardiac manifestations of moderate mitral insufficiency, interpreted as CD reactivation. The specific treatment for the *Trypanosoma cruzi* happened with allopurinol (8mg/kg/60 days). The immunosuppressive therapy consists in variable doses of prednisone and azathioprine (subsequently replaced by mycophenolate mofetil). Even NPCR do not be a quantitative assay, it was evidenced the parasite presence on the patient blood, beyond cardiac clinical signals which patient presented. Serological diagnostic remained inconclusive because the patient lost graft and abandoned the monitoring in our ambulatory, therefore we do not know if the patient presented seroconversion and the treatment was effective or the cardiac symptoms was for other cause.

Keywords: Chagas disease; Kidney transplantation; Diagnostic.