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Transmission of Trypanosoma cruzi by heart transplantation.

Kun H, Moore A, Mascola L, Steurer F, Lawrence G, Kubak B, Radhakrishna S, Leiby D, Herron R, Mone T, Hunter R, Kuehnert M; Chagas Disease in Transplant Recipients Investigation Team.

BACKGROUND: Trypanosoma cruzi infection (i.e., Chagas disease) is an unusual complication that can occur after solid-organ transplantation and that can result in severe illness or death. In 2006, there were 2 heart transplant recipients in Los Angeles, California, reported to have acute trypanosomiasis during the same month. We conducted an investigation to determine the source of these infections.

METHODS: We reviewed the medical, organ procurement, and donor transfusion and transplantation records of these 2 heart transplant recipients. The 2 heart transplant recipients were interviewed regarding any kind of natural exposure and were screened for parasites by obtaining blood and other tissue samples for buffy coat, culture, and polymerase chain reaction. Serum samples from the heart transplant recipients, organ donors, and blood donors were tested for T. cruzi antibodies by use of immunofluorescence assay and radioimmunoprecipitation assay. Tissue samples from the organ donors were examined by use of polymerase chain reaction and immunohistochemical staining. Other recipients of organs from the same donors were monitored for T. cruzi infection by use of polymerase chain reaction and immunofluorescence assay.

RESULTS: Both heart transplant recipients had no apparent risk factors for preexisting T. cruzi infection. Both were seronegative but tested positive for the parasite, indicating recent infection. Both recipients died despite medical treatment. The organ donors tested positive for T. cruzi antibodies by use of radioimmunoprecipitation assay; the blood donors were seronegative. Six other patients had received a liver or kidney from these organ donors. None showed evidence of T. cruzi infection.

CONCLUSIONS: To our knowledge, this is the first report of T. cruzi transmission associated with heart transplantation. Clinicians and public health authorities should be aware that manifestations of Chagas disease can occur after transplantation, requiring rapid evaluation, diagnosis, and treatment.

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