Letters to the Editor

Chagas' disease may also be encountered in Europe

An increasing number of cases of Chagas' disease due to Trypanosoma Cruzi (TC) are being detected among immigrants to the United States[1]. We report the case of a 56-year-old Bolivian woman, visiting relatives in Switzerland, who consulted the Medical Policlinics, Geneva, because of chronic constipation.

Physical examination revealed a slow and irregular pulse rate, corresponding to an atrial flutter, with ventricular rate of 30–40 beats . min^{-1}. Her ECG showed right bundle branch block (RBBB) associated with isolated ventricular ectopic beats. She had no cardiovascular risk factors, but admitted having had episodes of dizziness and breathing difficulties during effort. Doppler-echocardiography (Fig. 1A) revealed a slightly diminished left ventricular (LV) ejection fraction, mild mitral regurgitation, and left atrial (LA) dilatation. The right atrium (RA) and the right ventricle (RV) were moderately dilated without evidence of pulmonary hypertension. These findings, together with a clinical history of having lived, when younger for several months in a rural area in Brazil, suggested the possibility of Chagas' cardiomyopathy (CCM). Cardiac catheterisation showed normal pressures in both cavities, with moderate dilatation and a LV ejection fraction of 55%. Coronary arteries were normal. Left anterior fascicular block (LAFB) became apparent during the procedure as the patient reverted to a slow sinus rhythm.

Right ventricular endomyocardial biopsies (Fig. 1B) showed diffuse interstitial fibrosis, sometimes englobing small bundles of atrophic or degenerating cardiomyocytes, containing scattered mononuclear cell aggregates, predominantly CD3+ with slightly more CD8+ than CD4+, principally around small vessels. An indirect immunofluorescent antibody serological test for TC was markedly positive (1280 (n<160)). A single chamber (VVIR) pacemaker was implanted, without antiarrhythmic therapy, as the patient decided to return to Bolivia.

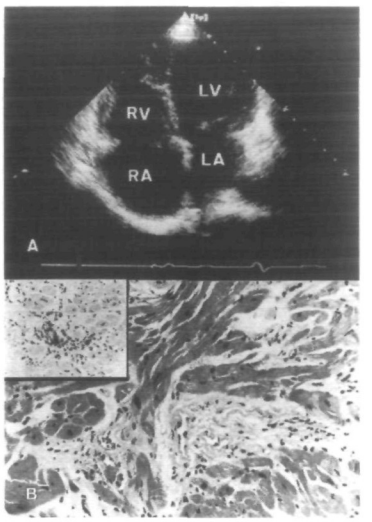

Figure 1 **(A) Doppler-echocardiographic recording at the four chamber apical view showing slightly diminished left ventricular systolic function and dilatation of the right cavities, particularly of the right atrium. (B) Endomyocardial biopsy showing diffuse interstitial fibrosis englobing bundles of isolated myocardial fibres with scattered mononuclear cell aggregates, principally around vessels. Inset: Strong positive immunohistochemical staining of the inflammatory cells by CD3 antibodies, indicating their T-cell nature.**

The clinical history, the ECG changes, the echocardiographic, haemodynamic and histopathological findings in this patient are consistent with a characteristic form of chronic CCM. The chronic form of Chagas' disease is characterized by alterations in the cardiac and/or digestive systems, due among other factors, to autonomical neuronal dysfunction of these systems[2]. There is a preferential involvement of the right bundle branch and the anterior fascicles of the left branch, due to progressive and ongoing inflammation and fibrosis[3]. Our patient had RBBB in combination with LAFB, which are ECG alterations frequently observed in patients in endemic Chagas' areas[2]. Ventricular arrhythmias are a prominent feature of CCM and atrial arrhythmias, including atrial fibrillation or flutter, may also occur[4,5]. Patients with a positive serology for TC with RBBB, especially in combination with fascicular block or ventricular extrasystoles, as in this patient, have a significantly higher mortality rate than seropositive persons with a normal ECG. Echocardiographic findings include LV dilatation, with reduced systolic function and abnormal diastolic filling, often with enlargement of the LA and right cavities. Our patient had global myocardial involvement, but the right cavities were more markedly involved. Although the histopathological findings in our patient are non-specific and parasites were not seen, the lesions are consistent with the diagnosis of CCM in the clinical context and the strong positive serology for TC[3,4,5].

It is now well established that Chagas' disease can also be transmitted by transfusion of blood donated by infected persons, or by transplantation of donated organs, thus making it of vital importance that all European physicians should be aware of the disease, especially with the increasing number of immigrants and tourists coming from or returning from South and Central America[4,5]. Cardiologists, gastroenterologists and pathologists, in particular, should be more familiar with the clinical and pathological presentation of Chagas' disease, which may also be discovered fortuitously in Europe.

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References

[1] Hagar JM, Rahimtoola SH. Chagas' heart disease in the United States. N Engl J Med 1991; 325: 763–8.
[2] Morris SA, Tanowitz HB, Wittner M, Bilezikian JP. Pathophysiological insights into the cardiomyopathy of Chagas' disease. Circulation 1990; 82: 1900–9.
[3] Higuchi ML, Gutierrez PS, Aiello VD *et al.* Immunnohistochemical characterization of infiltrating cells in human chronic chagasic myocarditis: comparison with myocardial rejection process. Virchows Archiv A Pathol Anat 1993; 423: 157–60.
[4] Kirchhoff LV. American Trypanosomiasis (Chagas' disease) — A tropical disease now in the United States. N Engl J Med 1993; 329: 639–44.
[5] Lange LG, Schreiner GF. Immune mechanisms of cardiac disease. N Engl J Med 1994; 330: 1129–35