

THE IMPORTANCE OF CLINICAL, PSYCHOLOGICAL, AND SOCIAL EFFECTS EXPERIENCED BY PATIENTS WITH AMERICAN TRYPANOSOMIASIS (CHAGAS' DISEASE)¹

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In the past, a positive serologic test for antibodies against the agent of Chagas' disease has sometimes been misinterpreted as demonstrating the clinical disease—with unfortunate results. This article focuses on the need to eliminate such confusion and also highlights the desirability of retraining disabled Chagas' disease patients.

Introduction

Chagas' disease (American trypanosomiasis) is an infection of man and other mammals caused by the flagellated protozoan *Trypanosoma cruzi*. The human disease features prominently among the parasitic diseases of man in nearly all Latin American countries.

An unusual feature of Chagas' disease—as compared with other diseases caused by pathogenic protozoa—is that the parasite develops inside cells of living tissues, often damaging those tissues. The most common clinical condition encountered in chronic human cases is cardiomyopathy. This is usually accompanied by cardiomegaly—leading to abrupt cardiac failure and sudden death. Other commonly affected organs are the esophagus and large intestine, which may develop conditions known respectively as megaesophagus and megacolon. Any of these conditions can produce serious debilitating effects that impair the patient's physical capabilities.

Unlike African trypanosomiasis (sleeping

sickness), which in the past caused large epidemics and depopulated many parts of Africa, Chagas' disease is endemic and is confined to areas with favorable conditions for hematophagous triatomine bugs, the vectors and transmitters of the infection. The disease occurs, and is maintained, mostly as a result of close and continuous cohabitation of man and the insect vector in crudely constructed dwellings with poor hygienic and sanitary conditions. Residents' lack of awareness and ignorance of the presence of the insects in their houses, and their importance as transmitters of the infection, is a further important factor aiding the spread of the disease.

An important obstacle in the control of Chagas' disease by chemotherapy, is the absence of an effective drug that would destroy the intracellular forms of the parasite in the infected tissues. Protective vaccine has also been considered, but the prospects for securing adequate protection through mass vaccination remain doubtful. Some satisfactory results have been achieved against house-dwelling triatomine bugs with insecticides. However, largely because of the immense geographic areas where Chagas' disease is endemic, overall control with insecticides would be difficult and financially prohibitive to achieve.

Adding to this unfortunate picture, data obtained over the last two decades from epidemiologic surveys in the various Latin American countries have shown that the

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disease has a much wider distribution than was originally believed.

The Need for Proper Diagnosis and Rehabilitation

Chagas' disease affects many people in their peak years of physical activity, debilitating them and removing them from the work force. Most of those affected lack skills that would enable them to do work requiring only minimal physical exertion, and so they come to pose a significant problem for welfare and social services. An added complication arises when a family's sole wage-earner becomes incapacitated and is forced to give up his job. Quite aside from any physical problems, social insecurities, and actual hardships, this event may have such a strong mental impact on the patient as to prompt serious deterioration of his condition.

Considering these circumstances, it is disturbing to see all the neatly arranged reports presenting statistical data and suggesting ways to control Chagas' disease that make no mention of the long-overdue humanitarian consideration that should be given to the patient, his condition, and his possible rehabilitation. A confirmed diagnosis of clinical Chagas' disease and the patient's resulting disability should not force the patient to become a useless member of the community. Rather, steps should be taken to rehabilitate the patient as an economically productive individual.

In this vein, it would be worthwhile for public health and social service agencies to establish rehabilitation centers for patients deprived of their usual occupations because of the disease. Following a period of training, these patients could be returned to a less physically demanding type of work that would enable them to keep earning a living. This would spare the rehabilitated patients much of the anguish resulting from initial loss of employment, while giving them the

satisfaction of providing for their families and remaining useful members of the working community.

It should also be realized that not every patient who contracts a *T. cruzi* infection will become debilitated or develop disease symptoms. Hence it is of utmost importance to distinguish between a clinical form of the infection, on the one hand, and mere evidence of *T. cruzi* antibodies, as demonstrated by a serologic test, on the other. This distinction between the clinical form of the disease and a positive serologic test should be clearly drawn by the clinician in assessing the patient's physical fitness. Unfortunately, some physicians persist in using the term "Chagas' disease," in response to nothing more than a positive serologic test, to describe the condition of patients who are completely asymptomatic. Such patients, unlike those with actual clinical symptoms, are thus placed in danger of losing their livelihoods solely through incorrect interpretation of a serologic test.

To help reduce this possibility, laboratories performing serologic tests for *T. cruzi* antibodies should confirm each positive test with a second reliable test of the same blood sample. It should also be kept in mind that cross-reactions can play a significant role in serologic tests for *T. cruzi* antibodies. In addition, due recognition should be given to the fact that the serologic tests only indicate whether *T. cruzi* antibodies are present, and do not provide any proof of clinical disease. Hence the laboratory's reports should read "reactive" or "non-reactive" against *T. cruzi* antibodies, and should on no account be interpreted as "positive" or "negative" for Chagas' disease. Though it might seem a small matter, distinguishing properly between positive serologic findings and actual clinical symptoms of Chagas' disease, would, in fact, spare many patients the needless anguish of losing their jobs and becoming social burdens unable to fend for themselves and their families.

SUMMARY

Besides being a debilitating pathological condition, Chagas' disease (American trypanosomiasis) poses an important socioeconomic and public health problem in countries where it is endemic. At present there is an important need to rehabilitate patients with clinical Chagas' disease, so that they can continue functioning as useful members of the working community instead of becoming social burdens depending on charitable support.

Within this context, it is unfortunate that some inexperienced clinicians tend to interpret a

positive serologic test for *Trypanosoma cruzi* antibodies as proof of Chagas' disease, even when the patient shows no clinical, electrocardiographic, or radiologic symptoms. Such a patient is invariably placed in danger of losing his livelihood solely as a result of the incorrect interpretation of a serologic test. Hence it should be stressed that such a serologic test is only a diagnostic aid—a tool for detecting *T. cruzi* antibodies—and not a definitive indicator of disease.

CANCER INCIDENCE IN THE UNITED STATES

The National Cancer Institute recently reported an annual increase in the incidence of cancer in the United States of 1-2 per cent from 1970 through 1976. White females showed the greatest increase, just under 2 per cent. The average annual incidence rate for all cancers combined during 1973-1976 in all areas surveyed, excluding Puerto Rico, was 324.4 per 100,000 population. This average reflects rates ranging from 227.8 in Utah to 358.0 in San Francisco. The rate for Puerto Rico was much lower (200.7), reflecting the lower overall rates among Spanish-speaking populations. For all the areas surveyed combined, cancers of the colon and rectum, breast, and lung and bronchus showed the highest annual rates. Lung cancer increased among white women by 8 per cent and black women by 10 per cent, while it increased among white men by 1 per cent and black men by 4 per cent. Both white and black women showed an increase in endometrial cancer almost equal to the increase in lung cancer.

The data on which the rates are based were collected through the SEER reporting system (Surveillance, Epidemiology, and End Results), which was established in 1973 to analyze the scope of the cancer problem in the United States.