COMMUNITY PARTICIPATION IN CHAGAS' DISEASE CONTROL

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Community participation (CP) is desirable in all the phases of current vector control procedures, chiefly in the entomological surveillance. There are of now several sucessful) examples of efficient C.P. in brazilian experience against Chagas' disease In the next 5 years probably some **hundreds of counties will be involved** in the surveillance step of the vector control. Because of this, the experiments on C.P. must be encouraged, and also in relation to housing improvement and blood transfusion programs, as an effective element for the continuity and consolidation of the activities.

Community involvement must be understood as a reciprocal educational process. Despite the illiteracy, the apparent ignorance and the isolation of the people the inhabitants show a very clear view of the real situation of their lives. The intelectual and the popular knowledge are complementary and yet different ways to approach the world. In reality, Chagas' disease does not appear disconnected from the everyday experiences of the people, like migration, unemployement, land tenency or agricultural production. So, the fighting against Chagas' disease must take into account the general conditions, the needs and the sense of reality of the people. CP is a concrete way to put the entire program at the service of the population, being the real space for its capacitation and organization. This work philosophy must be assumed and understood by the directions of the programs, often times characterized by verticalistic and not participative structures.

CLINICAL MANAGEMENT OF DIGESTIVE CHAGAS' DISEASE

Joao Carlos Pinto Dias

Chronic digestive Chagas' disease (DCD) is very important in endemic areas such as the brazilian central regions, where it reaches prevalence rates of about 10% of the infected people. Nevertheless, there are evidences of the **absence** (or very low prevalence) **of DCD in other areas like Venezuela and Panama.**

The physiopathogenetic substratum of DCD is mainly an autonomic intra-mur. denervation resulting in visceral motor discoordination and later visceral dilatation, chiefly of esophagus and colon ("megaesophagus" and "megacolon"). Secretory and absorption digestive disorders may be also present in DCD, but their clinical importance is low.

Clinical management of DCD begins with an effective diagnosis, which can be done by clinical and serological examination plus radiological suitable tests. Incipient esophagus and colon "paties" generally are detected only by pharmacological tests.

In general both colon and esophagopathy have a progressive evolution pattern. In the first degree of DCD there is no visceral dilatation component, but motor disturbance with problems related to the emptying of the organs. In this phase of symptomatic and conservative measures are avaiable such as adequate diets and cathartic drugs for colon "dysperistalsis". Esophagus early disorders can ben treated by **endoscopical hyperbaric dilatation that in several cases removes dysphagia and restores** an acceptable function for many years. For the advanced DCD cases surgical procedures are required chiefly in the esophagus and colon cases. For the megaesophagus, Merendino's technic is very useful in brazilian experience, with the replacement of the lower third of the organ by a jejuno segment. Megacolon should be extirpated and the proximal descendent ostium has to be anastomosed with rectal remanescent segment (Duhamel-Haddad surgery).

Some DCD complications are very common in endemic areas; malnutrition and aspirative *broncho-pneumonia in megaesophagus cases and* sigmoidean volvulus in advanced megacolon. In 50% of human DCD cases, a chagasic myocardiopathy is observed in Brazilian experience.

SELECTIVE CHEMOTHERAPY OF SCHISTOSOMIASIS: EVALUATION BY SIMULATION

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In the classical Macdonald model for schistosomiasis the parasite population is only regulated by the snail population, i.e. only the lack of susceptible snails prevents the worm burden to increase exponentially. There is epidemiological evidence for concomitant immunity which implies that the host is resistant to reinfection without being able to eliminate the established parasites. The egg production per female worm seems to decrease as the worm load in a host increases. The present stochastic simulation model takes into account explicitly *these regulating mechanisms*. The exposure index varies between individual hosts and within one host as a function of age. This feature of the model allows to take into account e.g. the fact that school-children are at higher risk to infection than adults. Morbidity is related to worm load by assuming a critical level above which an infected individual presents disease symptoms. The model allows to explore in a realistic way the effects of different strategies for chemotherapy, like selective treatment of specified age groups, of individuals with high exposure or of diseased individuals. *The results show* that chemotherapy alone without reduction of contact with snail-infected water may lead to an increase of incidence of new infections and of diseased cases. The sensitivity of these conclusions on the model assumptions is determined by repeated simulations with a wide range of parameter values and by analytical studies of simplified deterministic models.

ISOLATION AND IDENTIFICATION BY INDIRECT FLUORESCENCE PROCEDURE WITH MONOCLONAL AND POLYCLONAL ANTIBODY OF WILD DENGUE AND YELLOW FEVER VIRUS ON AEDES PSEUDOSCUTELLATIS CELL LINE

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The rapid diagnostic procedure of dengue and yellow fever virus is a major problem of the epidemiological survey on the african continent.

Aedes pseudoscutellaris cell-line has been used to identify wild dengue or yellow fever virus with monoclonal antibodies (dengue) or polyclonal (yellow fever) by indirect immunofluorescence staining in infected suckling mice brain or abdomen of Toxorhynchites inoculated by intrathoracic way. With this procedure yellow fever and 3\5 dengue 2 viruses have been identified from human sera, wild mosquitoes and monkeys.

This cell-line has been used for the direct isolation of the two viruses. The identification is then done by the same process. This technique allow to have a quick diagnosis of human cases of dengue 1,2, and 4 and to isolate yellow fever virus from blood, liver biopsy of patients and from wild mosquitoes.

Compared with other technique of diagnosis of wild yellow fever virus it is the more sensitive for all kind of samples, the delay for the answer is short enough (4 to 7 days).

For the permanent epidemiological survey the advantage of this operating process is discussed.

SURVEILLANCE OF N. GONORRHOEAE — THE COLLABORATIVE LATIN AMERICAN STUDY

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Comparison of international data regarding the efficacy of therapeutic regimens *for gonococcal infections or for the in vitro* susceptibility of N. gonorrhoeae to antimicrobial agents is often complicated by the absence of standardized protocols and analytical methods. In the present collaborative study, which will eventually include three Latin American countries and one Caribbean country, baseline data will be collected to compare the efficacy of two treatment regimens (one of which is 4.8 million units procaine penicillin, I/M, plus 1. 0 g oral probenecid) and the in vitro susceptibility of N. gonorrhoeae to eight antimicrobial agents (penicillin, ampicillin, tetracycline, erythromycin, spectinomycin, cefuroxime, thiamphenicol, sulfamethoxazole-trimethoprim). All isolates are to be screened for β-lactamase production. Data from Chile and preliminary data from Jamaica are presented in the present report. The second treatment regimen used in Chile was tetracycline (1.5 g oral followed by 0.5 g by mouth 4 times a day for 4 days) while ampicillin (3.5 g plus 1.0 g oral probenecid was used in Jamaica. Laboratory data pertaining to auxotype and molecular profiles for a proportion of the isolates is also included. Penicillinase-producing isolates were identified for the first time in both Jamaica and Chile. They comprised under 5% of the cases studied. PPNG harboring the 4.5 Md penicillinase-producing plasmid as well as the transfer (24.5 Md) and cryptic (2.6 Md) plasmids were isolated in both Chile and Jamaica; in Jamaica isolates with the 3.2 Md β-lactamase plasmid were characterized as well. In vitro susceptibility tests indicated that fewer than 6 percent of the isolates exhibited chromosomal resistance (MIC >1.0 mg/L) to penicillin. However, differences in susceptibility to other antimicrobials, notably tetracycline and thiamphenicol were observed. Preliminary analysis of the data from both countries indicated primary treatment failure rates with penicillin of 4 to 7%. Some of these failures were attributable to PPNG infections. Treatment failures with tetracycline were under 5%. It therefore appears that, both Chile and Jamaica are characterized, at present, by a low incidence of PPNG and of strains with chromosomally-mediated resistance to the penicillins. However, the situation must be closely monitored and other locations within these countries should be sampled.

STUDIES ON ONCHOCERCIASIS IN NIGERIA

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In a recent survey on the incidence of onchocerciasis in Nigeria, it was found that Nigeria is endemic for this parasite; *Onchocerca volvulus*. **The disease is commonly found along the** major fast flowing rivers and dams in both the northern and southern parts of the country. *Simulium damnosum*, the incriminating vector of this parasite is found in abundance in these areas and the disease is accompanied by skin nodules and river blindness among the rural population especially in the northern region.

The economic importance of this tropical disease as well as the factors responsible for both its endemicity and parasite strain differences in the northern and southern parts of this country are analyzed. **The public health implications and control** methods are also discussed.

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