

## FILARIASIS PROGRAMME — RECIFE — BRAZIL

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Since the 1950's, when it posed serious public health problems, Bancroftian filariasis has been an endemic disease in Recife, Brazil. Ever since, owing to health campaigns carried out by SUCAM (Superintendency for Public Health Campaigns), incidence of that disease seems to have declined (1985-SUCAM). No extensive measures have been taken to attack the vector. Epidemiological surveys to take thick smear used to be made by collecting five blood drops. In the last five years, however, only one drop has been used for that purpose.

In May 1986, the CPaAM "Centro de Pesquisas Aggeu Magalhães" Filariasis Program was established through the installation of a specialized outpatient clinic, with a view to re-evaluating the disease in the area. The Program aims at providing the necessary conditions for basic and applied research on Bancroftian and animal filariasis which occur in this region. A total of 3,954 consultations were made with 900 patients attended at the clinic between May 1986 and July 1987. The established procedure has been to submit all patients to a general as well as a special protocol, the examinations being selected according to each particular case. The general protocol consists of a parasitemia investigation, an absolute eosinophil count, urine and stool examinations. The second protocol is requested in accordance with the patient's clinical form: pulmonary function, chest X ray, electrocardiogram, echocardiogram, eosinophil curve with morphology, lymphography, urography, tomography, ultrasonography, fluid and secretion examinations, and biopsy.

The vector population is examined during a given period of time in order to determine the infection and infectivity rates. Besides the regular outpatient care service, semiannual epidemiological surveys and an evaluation of the transmissibility rate in the area carried out. By analyzing the available data on the auto-

chthonous cases of tropical pulmonary eosinophilia as diagnosed at the outpatient clinic, by surveying the high-incidence territory delimited through epidemiological surveys and by identifying potential zones of infection, it is possible to pinpoint the problem areas which must be covered by the Ministry of Health. So far, the following sites have already been identified as target areas for its action:

1. Sapucaia de Fora, Sapucaia de Dentro, Agua-zinha, the Peixinhos Triangle, Caixa D'água, and Águas Compridas (in the city of Olinda);
2. Afogados, Santo Amaro, Beberibe, Várzea and Casa Amarela (in the city of Recife);
3. Cavaleiro and Prazeres (in the city of Jaboatão).

Among the 900 individuals coming from the various districts of Greater Recife who were attended at the clinic, the following clinical forms were detected: parasitemia (149), hyper-eosinophilia (2), tropical eosinophilia (29), lymphedema (10), lymphadenopathy (19), hydrocele (15), elephantiasis (12), chyluria (10), epididimitis (2), chylocele (2), edema of penis (1), and inguinal abscess (1).

The presence of microfilaremia associated to several clinical forms varies regionally. In the group of 111 individuals bearing circulating microfilariae, the following clinical forms have been found by the authors: no symptoms or signal associated, 55 (49.5%); hematuria, 39 (35.1%); hydrocele, 5 (4.5%); chyluria, 3 (2.7%); hamatochyluria, 3 (2.7%); lymphadenopathy and inguinal abscess, 3 (2.7%); chylocele, 2 (1.8%); lymphangitis, 1 (0.9%). The study of the relation parasitemia/clinical form was considered significant for the fact that hematuria was detected in this group, evidencing the direct relation between parasitemia and hematuria, once the patients responded well to the specific treatment with diethylcarbamazine (DEC). This procedure is a contribution to a better diagnosis and treatment of patients with the so-called "idiopathic hematuria" as found in the region, for only a few studies have been

carried out on this clinical form in regions where Bancroftian filariasis is endemic.

A study on the periodicity of *Wuchereria bancrofti* as found in the region was made by examining 100 individuals showing microfilaremia at 9:00 AM and 11:00 PM in three weekly collections. Out of that total, 67 presented the nocturnal periodicity form, and 33 presented the non-periodic form.

The Table shows the forms of microfilariae occurring in the region.

TABLE

Numbers of microfilariae per ml found in the morning and at night

Form	Microfilariae per ml		
	Reg. number	9:00 AM	11:00 PM
Periodic	1	2	16,535
	2	1	1,524
	3	4	4,000
Non-periodic	4	933	4,860
	5	1,658	6,032
	6	3,000	6,262
	7	3	5
	8	25	30
	9	14	14

As the prevalent form of the disease in the region is that of nocturnal periodicity, a study was made to verify the effectiveness of the provocative day test with DEC with the aim of facilitating the diagnosis, once social and operational difficulties hamper the collection of blood samples by night. Up to now, a total 43 individuals have been examined by means of the Knott concentration technique, and the efficacy rate of the test was 93% (40 patients). According to studies under way, there seem to be great possibilities that such a technique may be used as an alternative test wherever nocturnal surveys prove not feasible.

Many authors already refer to the inefficacy of antihistaminic in preventing adverse reactions that occur in patients bearing microfilaremia when submitted to specific treatment with DEC (McGregor 1960; Partono 1987;

Ottesen 1987). In a systematic study on 107 patients with parasitemia treated at the CPqAM specialized outpatient clinic, only 5 (4.66%) showed reactions, and those were rather mild, there being no need to interrupt the administration of the drug. Patients were treated with the drug associated or not with antihistaminic, giving thus a preliminary idea that an adverse reaction seems to be something individual, not necessarily related to a high number of circulating microfilariae. In our region, association to difenidramine is used for any clinical form, regardless of the fact that the individual has positive parasitemia or not, which contradicts the initial justification for the use of antihistaminic, submitting the patient to unnecessary use of the drug and leading to subtherapeutic dosage of DEC, in view of the collateral reaction with antagonists to H-1 receptor. It seems of great importance to remark that, working with two associated drugs, one may attribute to one of them the disappearance of symptoms such as cough of allergic origin, rhinitis or nasal obstruction, considering these to be manifestations of filariasis, while they are indeed symptoms very responsive to antihistaminic. In the CPqAM Program DEC, is used as a routine without antihistaminic in patients bearing Bancroftian filariasis in all its clinical forms.

#### FINAL CONSIDERATIONS

The above-mentioned Filariasis Program has brought about a unique set of circumstances that favor the research on the disease in the region. It enhances the multidisciplinary collaboration, opening thus new avenues for the dispelling of the many doubts concerning this disease, which affects around 8.16 million people in the world, and threatens an additional 905 million living in areas under risk of transmission (OMS, 1984).

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