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Filarial elephantiasis in French Polynesia: a study concerning the beliefs of 127 patients about the origin of their disease

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Summary

127 patients from Tahiti who were suffering from elephantiasis were interviewed about their opinion of the origin of their disease. Ancestral beliefs are still widely held even after 25 years of antifilarial campaigns which have resulted in a drastic decrease in endemicity with almost no clinical incidence. It is disappointing that the responsibility of mosquitoes is denied by a majority of patients. The explanations are to be found in the unusual evolution of this disease and in the small importance attached to sanitary education.

Introduction

Sclerofibrotic hypertrophy of the dermis and hypodermis, or elephantiasis, is a late complication of lymphatic filariasis.

French Polynesia was particularly affected in time past by *Wuchereria bancrofti* var. *pacifica*. In 1950 the prevalence of microfilaria carriers ranged from 15 to 35% in different islands and the incidence of clinical manifestations was equally important (BEYE *et al.*, 1952; GALLIARD *et al.*, 1949). At the present time and after 25 years of antifilarial campaigns based principally on mass chemotherapy with diethylcarbamazine (Banocide(R)) (MERLIN *et al.*, 1976) the endemicity is stabilized at a low level and the existence of late complications is now rare. However, a large number of patients with elephantiasis still exists, especially amongst those over 50 years old, and illustrates the former severity of the disease.

Sanitary education campaigns were conducted to demonstrate the role of mosquitoes in transmitting the disease and the role of patients in favouring the multiplication of these vectors. The actual effect of this work is difficult to assess and we thought it would be interesting to determine what the population believed to be the origin of the clinical manifestations which are essentially either lymphangitis ("mariri") or elephantiasis ("fefee"). To our knowledge, such an investigation has not been previously carried out.

During 1976, 274 patients suffering from elephantiasis, who originated from Tahiti and other islands of the Society Islands archipelago, were examined (CARME & LAIGRET, 1978; CARME *et al.*, 1978) and the beliefs of 127 about the origin of their disease were studied.

Materials and Methods

Every patient was visited at home and interviewed by a Tahitian nurse. The questions on their opinion about filariasis were asked only at the end of the examination and without the participation of the attending physician. There were two main questions (i) What is the cause of your ailment? (ii) Do you believe that the mosquito (and/or filaria) can be the responsible agent?

The answers to question (i) were noted without comment and those to question (ii) were grouped as either possible or impossible.

Results and Discussion

Table I illustrates the answers to the first question We found injury to the foot to be a very popular belief since 40·6% of patients interviewed attributed their disease to this, especially sprained ankle, and also believed that their injury was aggravated by bathing in the sea. The oedema which followed may have led them to a false diagnosis of filariasis. This opinion seemed to be more common among men than women (47·9% males compared with 31·6% females). Only 12·5% of cases gave the expected answer implicating the mosquito as a causative agent. Moreover, among the 17 elephantiasis patients six were Caucasians and thus the percentage was only 11 of 120 (9·17%) among the Maori and mixed populations.

Heredity was frequently proposed. This opinion was understandable as the frequency of married couples having elephantiasis was high at the beginning of the century. It is possible that this opinion may be partially correct.

Table I—First question: What is the cause of your infirmity? (127 patients)

	Females	Males	
Injury to ankle	18 (31·6)	34 (47·9)	52 (40·6)
Mosquito	9 (16)	8 (11·3)	17 (12·5)
Heredity	6 (10·7)	9 (12·7)	15 (11·7)
Spell	4 (7·1)	2 (2·8)	6 (4·7)
Fatigue	1 (1·8)	5 (7)	6 (4·7)
Tahitian beer	0	3 (4·3)	3 (2·3)
Cold	1	2	3 (2·3)
Miscellaneous	4 (7·1)	4 (5·6)	8 (7·8)
"no reply"	13 (23·2)	4 (5·6)	17 (14·8)
Total	56	71	127

Among the answers given several times those implicating spells should be emphasized. It appears that they would have had more importance without the scientific medical context of this survey. They consist mainly of a burn by a stone of a "marae" (ancient Polynesian temple) or eating food stuffs contaminated with human urine. This belief was noted at the beginning of this century (DUBRUEL, 1910). Three of our patients accused the locally produced beer. One patient implicated Banocide.

The beliefs were almost equal between the two sexes. The only significant difference to be noted was the answer "no reply" given by 23·2% of women.

Table II—Second question: Do you believe that the mosquito (and/or filaria) can be the responsible agent?

	Possible	Impossible	Total
IIa—All persons	48 (37·8)	79 (62·2)	127
IIb—According to sex (127 patients)			
Females	22 (39·3)	34 (60·7)	56
Males	26 (36·6)	45 (63·4)	71
IIc—According to age (126 patients)			
<35	1	0	1
35-44	1 (11·1)	8 (88·9)	9
45-54	13 (46·4)	15 (53·6)	28
55-64	17 (44·7)	21 (55·3)	38
⩾65	16 (32)	34 (68)	50
IId—According to racial origin (127 patients)			
Polynesians	26 (29·9)	61 (70·1)	87
Mixed races	15 (45·5)	18 (54·5)	33
Caucasians	7 (100)	0	7

Table II shows the reaction of patients to the possible role of mosquitoes. The question was asked in such a way that we could classify the subjects into two categories: those who think it possible, spontaneously or after injury, that the mosquito plays some role (actively or passively) and those for whom this is impossible. The latter formed the major group (62·2%). There was no significant difference related to sex (Table IIb). The absence of significant variation with age (Table IIc) was surprising; the younger population (age 35 to 44) was curiously more reticent but unfortunately the small number of subjects (nine) allowed no definite conclusion. On the other hand, there was a clear difference amongst the races (Table IId). The Polynesians were more sceptical with 70·1%, compared with 54·5% among the mixed races. None of the seven Caucasians (five French, one Polish, one American), all of whom had lived and become integrated in the country many years ago, refused to accept the role of the mosquito.

These unfavourable results in view of the sanitary education campaigns may appear paradoxical when the struggle against filariasis is efficient. Several reasons exist, however, some of which can be attributed to the disease itself—microfilaraemia is rarely present in patients with elephantiasis, many symptomless subjects are carriers of the parasite, the chronic manifestations are aggravated by local injury, the fact that mosquitoes are not discriminatory biters, the absence of uniformity in the one-sidedness or asymmetry of the lesions if mosquitoes bite everywhere...

Moreover, the advanced age of patients explains the absence of schooling for most of them. The attachment to ancestral beliefs was also great among these people and it will be interesting to compare these results with those obtained among children of school age.

As chemotherapy by Banocide(R) was chosen as the principal action, great efforts were made to ensure its best use (LAIGRET *et al.*, 1965; MERLIN *et al.*). These necessitated certain routines which could not be performed according to sanitary education principles. This applies to campaigns for blood-sampling and to the distribution of the drug.

Furthermore, we can regret that the methods of education were not as well organized as those of chemotherapy and the absence of a systematic study of the beliefs of people is astonishing.

Finally, we hope that these surveys can be applied systematically during campaigns against endemic parasitic diseases. They should be conducted on the same level as entomological, clinical, parasitological and biological surveys.

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