



ABSTRACTS OF RECENT CHINESE PUBLICATIONS ON FILARIASIS¹ (VII)

51. Cheng, F. C. et al. Morphologic study on human Brugia malayi. Chinese Medical Journal, 1984, 97 (10): 765-774 (In English)

Through a series of successive scanning electron microscope (SEM) observations made in 1981-1983 on adult Brugia malayi from various districts in Henan and Guizhou provinces, it was noted that on the oral rim there were 6 papillae in the inner circle and 4 in the outer, while 11 peri-anal papillae and 4-6 other papillae scattered in the interspace from the postanal part to the caudal end were also visible. These observations correspond with those made by Buckley (1960) but differ from those reported by other Chinese workers. This demonstrates that the morphology of B. malayi from certain districts in China is the same as that described for B. malayi from other countries, thereby indicating that they belong to the same species.

However, a number of different features in filarial worms from certain districts in Henan province have also occasionally been seen. Some adult worms have 3-5 pairs of lateral papillae beyond the anal opening and some adult females have a single papilla at the sub-caudal end, apparently showing that B. malayi in China's vast, highly complicated terrain may well consist of geographical strains or subspecies.

This paper also gives for the first time more detailed descriptions of the dermal circular striations of B. malayi, the bar-like bodies in the male ("area rugosa"), the tubercles on the lateral margin, the third-stage larvae from Henan, the papillae at the cephalic end of the microfilaria, the cord-like matter in front of and behind the anal opening and the morphology of the cephalic cap in the microfilaria.

Reference

Buckley, J. J. C. (1960) on Brugia gen. nov. for Wuchereria spp. of the "malayi" group, i.e. W. malayi (Brug, 1927), W. pahangi Buckley and Edeson, 1956, and W. patei Buckley, Nelson and Heisch, 1958. Annals of Tropical Medicine and Parasitology, 54: 75-77.

52. Wei, Y. S. et al. Microfilarial periodicity of Wuchereria bancrofti and Brugia malayi in Sichuan. Journal of Parasitology and Parasitic Diseases, 1985, 3 (3): 203-205 (In Chinese, with English abstract)

A study was made on the periodicity of microfilariae (mf) in the blood of 53 patients with bancroftian filariasis and 21 with malayan filariasis from various areas of Sichuan province. The periodicity indices for Wuchereria bancrofti mf and Brugia malayi (mf) were 103.85% and 112.08%, respectively. The best estimate of the peak hour was 1:06 a.m. in patients with bancroftian filariasis and 1:18 a.m. in patients with malayan filariasis. It was demonstrated that the microfilariae of both W. bancrofti and B. malayi in Sichuan province exhibited typical nocturnal periodicity.

¹ The WHO/FIL series has been chosen as a vehicle for issuing abstracts or translations in English of papers on filariasis published in the Chinese medical and scientific press as most of this material is not readily available to interested readers outside China. The numbering of the abstracts in this document is consecutive to that of abstracts given in the previous WHO/FIL/84.178.

53. Wang, J. Y. Simplified methods to determine human microfilaria peak hour and periodicity index. Chinese Journal of Preventive Medicine, 1984, 18 (3): 158-161 (In Chinese, with English abstract)

In order to determine the type of microfilaria periodicity, Sasa and Tanaka (1972, 1974, in Sasa, 1976) developed a statistical method to estimate the peak hour and periodicity index of microfilariae appearing in peripheral blood. This method, however, is not easy to apply without a programme calculator.

The present paper describes two simplified methods which can be easily used without any calculator.

The peak hour is determined by calculating the mean angle according to the principle of circular distribution, while the periodicity index is obtained by calculating the coefficient of variation of mean microfilaria density.

The results of calculations using the simplified methods are the same as those using the Sasa-Tanaka method.

When the simplified methods of calculation were applied to the data collected from 10 provinces and municipalities, it was demonstrated that both bancroftian and malayan filariasis in China are of the nocturnal periodic form.

Reference

Sasa, M. (1976) In: Human filariasis. Tokyo, University of Tokyo Press, pp. 701-723.

54. Ling, J. H. et al. Analysis of residual sources of infection in an area previously endemic for filariasis. Chinese Journal of Epidemiology, 1985, 6 (4): 222 (In Chinese)

A blood survey was carried out from 1979 to 1983 in Minqing county, Fujian province, where malayan filariasis, previously endemic in the area, was basically eradicated, i.e. the positive microfilaria rate in every village of the county was down to less than 1% since 1977. Among 2100 native residents examined, Brugia malayi microfilariae were detected, using the conventional blood smear method, in only one person (0.05%), while among 1990 immigrants residing in the area since 1977, 12 (0.6%) were positive, all of whom had come from Jiangsu province with W. bancrofti microfilariae in their blood. The data obtained suggest that the microfilaria infection rate in immigrants was 12 times as high as that in native residents, and consequently it is those immigrants from endemic areas who may serve as new sources of infection.

55. Yang, Z. Y. et al. Surveys on filariasis patients with symptoms and physical signs in Tengxian county where filariasis is basically eradicated. Journal of Parasitology and Parasitic Diseases, 1985, 3 (3): 209-211 (In Chinese, with English abstract)

Tengxian county was formerly a hyperendemic area of bancroftian filariasis, with a microfilaria rate among its population of 25.3% before control measures were taken; this rate has now dropped to 0.17% as a result of repeated treatments and the distribution of diethylcarbamazine (DEC) medicated salt to 1.4 million inhabitants.

In 1983, a total of 1335 patients with clinical manifestations of bancroftian filariasis were found in different parts of this county, including, among others, 172 cases of elephantiasis, 698 of hydrocele, and 411 of chyluria. Of the 172 elephantiasis patients, 169 (98.3%) were old cases, with only 3 recent cases (first stage). Most of the hydrocele cases were mild. The incidence of chyluria rose significantly in the last years, and the cause of this is discussed.

56. Wang, S. Z. Clinical and pathological features of mammary filarial tubercles: analysis of 25 cases. Journal of Parasitology and Parasitic Diseases, 1985, 3 (2): 131-132 (In Chinese, with English abstract).

This article analyses the cases of 25 women with mammary filarial tubercles as proven by pathological examination at the First Municipal Hospital of Xiamen, Amoy, in 1958-1983.

The main pathological features observed were those of acute endolymphangitis accompanied by a granulomatous reaction consisting of fibrinoid necrosis with pronounced infiltration of eosinophils, lymphocytes, mononuclear cells and occasionally epitheloid cells around the necrotic worms. Distension of the lymphatics was usually found around the lesion.

All 25 patients revealed the characteristic pathological features. Dead or calcified worms were found in 21 patients, and microfilariae in four.

This illness had always been clinically misdiagnosed as plasmacyte mastitis, tuberculous mastitis, mammary liponecrosis, mammary cystic hyperplasia, mammary endocarcinoma, etc. The clinical and pathological differential diagnosis is discussed.

57. Xu, Z. M. et al. Filarial worm in urine - a case report. Journal of Practical Internal Medicine, 1985, 5 (6): 300 (In Chinese)

A 37-year old man voiding occasionally turbid white urine for two years was hospitalized and a white thread-like worm was voided from his urine during the night. Upon physical examination, tenderness in kidney area was observed and laboratory findings revealed a blood eosinophil count of $638/\text{mm}^3$. Urinalysis, an X-ray of kidney, ureter and bladder, and a venography of renal pelvis were all within normal limits. The worm specimen measuring 50 mm in length and 0.16 mm in diameter was identified as an immature female filaria but its species could not be determined due to a lack of visible characteristics.

58. Feng, Z. M. et al. Modification of antigen preparation used in an indirect fluorescent antibody test for the diagnosis of filariasis. Chinese Journal of Medical Laboratory Technology, 1984, 7 (2): 101 (In Chinese)

Frozen sections of female worms of Brugia malayi collected from peritoneal fluid of artificially infected gerbils were used as antigen in an indirect fluorescent antibody (IFA) test for the diagnosis of filariasis. Carbomethyl cellulose was used for embedding when preparing the frozen-sectioned antigen slides. Sera from 210 microfilaria positives, 90 microfilaria negatives and 13 advanced filariasis cases were tested. Positive rates were 89.62-100%, 26.19-66.67% and 100% respectively. Among 150 healthy students only 1 (0.66%) gave a positive reaction. The IFA test was deemed to be an ideal method for epidemiological survey.

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