

MELIOIDOSIS IN COCHIN CHINA.

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(*From the Pasteur Institute of Saigon, French Indo-China.*)

(With a Chart.)

"It is highly improbable that melioidosis is limited to the three towns where its presence has been detected." This statement, made by Stanton and Fletcher (1925, *Lancet*, 1. 10) in their account of the disease, finds confirmation in the following observations made at Saigon, Cochin China, in the case of an Annamite woman from the small village of Thu-duc, fifteen kilometres north-east of Saigon.

HISTORY OF THE CASE.

The patient, Nguyen-thi-Sanh, is 24 years of age and is married; she is in the fifth month of her pregnancy. Her husband is well-to-do and she has only light household duties. At seven years of age she suffered from bubonic plague and since then her general health has not been good; she has had frequent attacks of migraine and ill-defined general pains. Her appetite has been capricious and she is now very thin and ill nourished.

According to the patient's account, she was suddenly taken ill on November 22nd, 1925; her temperature was about 101° F.; there was no shivering nor any well-defined local or general symptoms. On the following days the temperature was higher; there was marked lumbar pain and nausea but no vomiting; she suffered from a dry irritating cough and hiccoughs.

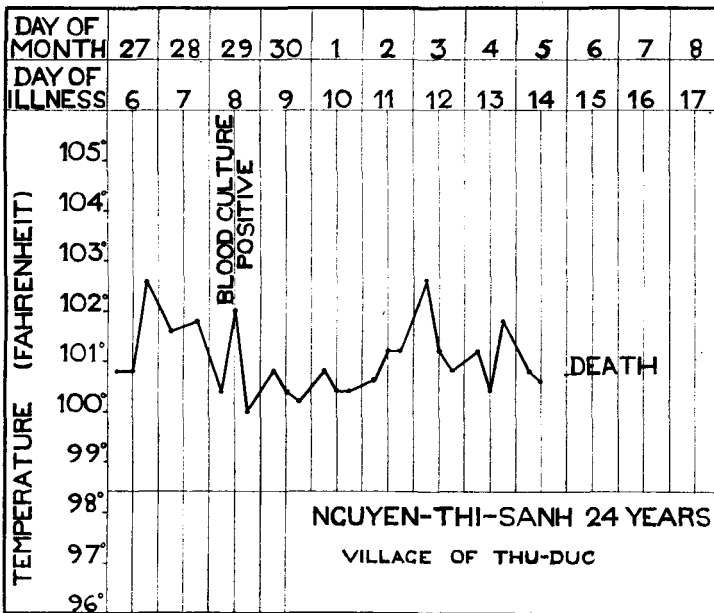
On November 27th she was seized with severe abdominal pains and was removed to the home of her parents in Saigon. A European doctor was called to see her, and diagnosed threatened abortion. Her temperature was then 100·8° F.; pulse 116, small and easily compressible; there was slight prostration; she had a dry cough like that from irritation of the diaphragm; hiccough was frequent; she was constipated. On examination the liver was found to be enlarged and tender, and the spleen slightly enlarged. The evening temperature on that day was 102·6° F. During the following night the patient aborted; there was a small tear in the cervix but no other complication.

As there was no improvement in the patient's condition, one of us was called to see her on November 29th for the purpose of examining the blood by culture, agglutination tests and differential leucocyte count. She was then delirious.

On the following day her general condition became worse; the temperature ranged between 100° F. and 101° F. and the pulse rate varied from 120 to 140; there was marked pallor. She complained of pain in the right groin and on examination a swollen inguinal gland was found but nothing to account for it other than the lesion in the cervix and the general constitutional state.

On December 1st and 2nd it became apparent that the patient would die; prostration was then severe and the anaemia had increased from day to day. She died on December 5th, the fourteenth day of the illness. An autopsy was not permitted and the only hope of identifying the nature of the disease lay in the laboratory.

Nothing in the information we were able to obtain, though this is always imperfect in the case of natives, gave us any ground for thinking that the



patient could have acquired an infection of human origin. On the other hand, an animal origin of the infection was probable as she lived in contact with the usual domesticated animals, dog, cat and horse and her dwelling was built of bamboos which harboured rats (*Mus rattus* and *M. decumanus*) and shrews (*Crocidura murina*). It should be noted, however, that there had been no suspicious death among these animals.

LABORATORY INVESTIGATIONS.

Agglutination tests with the patient's serum on the seventh day of the disease gave negative results with *B. typhosus* and *B. paratyphosus* A and B. Differential blood counts showed a marked relative increase in polymorpho-

nuclear leucocytes; on November 28th they formed 92 per cent. of the total leucocytes and on November 29th 95 per cent. On November 29th we inoculated 20 c.c. of the patient's blood in 200 c.c. peptone broth and on December 2nd growth in the medium was observed.

The general characters of the micro-organism isolated are as follows: a short bacillus with rounded ends, motile; it does not stain by Gram's method, it is definitely bipolar and is stained with difficulty by the ordinary aniline dyes. It grows readily on the usual laboratory media; the colonies are white in colour, moist or dry, smooth or crinkled; the growth recalls the appearance of *B. mallei* on glycerinated potato. It attacks sugars very readily and ferments glucose, maltose, mannite, lactose and saccharose without the production of gas. It liquefies coagulated serum.

The bacillus is strongly pathogenic for all the usual laboratory animals; it is comparable with *B. pestis* in virulence. It causes death by ingestion, by ocular or nasal instillation, and by rubbing on the scarified skin. It produces abscess at the site of inoculation, general adenitis and abscess of the spleen and lungs.

After numerous investigations the organism was identified by us as *B. whitmori*, the causative agent of melioidosis. Our diagnosis had been confirmed by Drs Stanton and Fletcher, who have made a comparative study of our culture and to whom we here record our thanks.

SUMMARY.

1. A case of the septicaemic form of melioidosis is recorded from Cochin China.
2. Certain new biological characters of the causative agent, *B. whitmori*, are described.
3. An animal origin of the infection in this case is considered probable.

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