

The eyes were engorged, and the pupils dilated. There was no other abrasion of the skin. In the upper left thigh there was a bubo, the size of the palm of the hand. The left femoral and inguinal glands were enlarged, the skin around red and inflamed, the tissues around swollen and cedematous. The skin over the groin was well cleaned with carbolic acid 1-20, and then with turpentine. A crucial incision was made through the skin, of the skin reflected, a quantity of yellow serum exuded from the tissues. The glands were enlarged and matted together. An incision was made through them—they were reddish-black in colour and full of very dark extravasated blood—there was no pus in the tissues around or below the glands. Dr. Baldwin took several specimens in sterilized tubes. The incision was now soaked with pure carbolic acid and covered with carbolized cloths. On opening the abdomen, the omentum and large and small intestines were found covered with small spots of extravasated blood. The omental and lumbar glands were enlarged, varying in size from a split-pea to the size of a shilling; some were livid, others black in colour from extravasated blood. The peritoneum and intestines were healthy in appearance, with the exception of the blood spots. The appendix and Peyer's patches healthy, no evidence of typhoid fever. On the outside of the stomach were several blood spots; the internal coating of the stomach was covered with small punctated blood spots, otherwise apparently healthy. The liver was slightly enlarged, apparently healthy. It had no blood spots on the surface, or in the substance; no evidence of alcoholism. The spleen slightly enlarged, very dark in colour, very soft, and broken down into a pulsatous material. Dr. Baldwin took samples in sterilized tubes. The kidneys normal in size, apparently healthy. The bladder healthy. On opening the thorax, the pleural membrane were found covered with blood spots. The right lung was bound down with old adhesions, which broke down with difficulty. They were both healthy in appearance, with the exception of numerous small blood spots. Bronchial tubes normal. There was no evidence of pneumonia—the lung tissue floated easily. The heart was slightly enlarged, but healthy; valves normal. There was no pus to be found in any part of the body. There was no sore on penis, or signs of discharge from the urethra. The glands of the right axilla were enlarged. The glands of the right femoral and inguinal region were slightly enlarged and hard. The head and spinal-cord were not opened. Dr. Baldwin did not think it necessary. The body was covered with pure carbolic acid, and the outside coverings over the clothes of all present were put into the coffin, soaked with carbolic acid, and then fastened down. This examination was carried out, as directed by Dr. Baldwin.

I have, &c.,

G. TOUSSANT GIRDLER, L.R.C.P., L.R.C.S.

Dr. King, Medical Officer of Health to the City of Auckland.

Several of the pipettes containing fluids from the bubo, and also some smears, were sent by hand to Wellington to Mr. Gilruth, one of the General Health Commissioners for the colony, for examination. A pipette and smears were kept in Auckland by Dr. Baldwin. I proceeded to Auckland as soon as the case was reported. I arrived there on the 25th. By this time Kelly had been buried, and Drs. King and Baldwin had taken all the proper steps for the isolation of the "contacts," and also for the disinfection of the room in which the patient had died. I at once proceeded to make cultural and other experiments, the result of which convinced me that the decision arrived at by Mr. Gilruth was absolutely and without doubt correct.

Realising the importance of at least convincing the authorities of the truth of the danger that was in their midst, I invited Professor Thomas, of the Auckland University, to examine the various steps and results of my examination, after which he was good enough to write the following report:—

SIR,—

Auckland, July 3rd, 1900.

I have the honour to forward you a statement with regard to the reported case of bubonic plague. You will remember that I last week examined several slides prepared from the case referred to. These slides were the only preparations which Dr. King was able to submit to me at the time, and I stated then that I did not consider that they afforded independent evidence of the occurrence of a case of plague. Dr. Mason has seen the same slides and he informs me that he agrees with that decision.

I have to-day, at Dr. Mason's request, examined certain preparations from a guinea-pig which he had inoculated with a pure culture of bacillus obtained from the *post mortem*. The guinea-pig died to-day, and Dr. Mason states that it showed all the required evidence for the diagnosis of a case of plague. So far as I saw the organs they bore out the statement. A slide of bacilli prepared from the guinea-pig presented all the features characteristic of the true plague bacillus. I should not be, however, disposed to accept the microscopic evidence as binding by itself. But taken in conjunction with the fact that the guinea-pig has been inoculated with a pure culture of a bacillus from the reported case of plague, and that the guinea-pig has died of a disease which produced the symptoms and lesions of bubonic plague, it must be admitted that Dr. Mason has adduced very strong evidence in favour of the diagnosis of bubonic plague. The only loophole of escape from the conclusion is perhaps as follows:—

Plague is, after all, only a particular form of blood-poisoning, and belonging to the same group of bacilli are many forms which cause blood-poisoning in one way or other. Is it possible that we are dealing here with a bacillus which, though very similar to the plague bacillus and the actual cause of death in the recent case, is not the true plague bacillus? There is always a bare possibility of this, but it must be admitted that the close similarity in appearance of the specimens to micro-photographs of the plague bacillus, and also to specimens from Sydney, do not support the theory. Further, the result of experimental inoculation would be accepted by bacteriologists generally as sufficiently proving the diagnosis.

Accepting, as I must do, the complete accuracy of the statements made to me by Doctors Baldwin and Mason as to the history of the specimens examined, I am unable to question Dr. Mason's diagnosis.

I have, &c.,

A. P. W. THOMAS.

The Chairman, Local Board of Health.

The following letter from Dr. Beaumitz, of the Pasteur Institute, to Mr. Gilruth, who submitted the organism isolated from Kelly for his examination, may be of interest:—

[Translation.]

DEAR SIR,—

Institut Pasteur, Rue Detot, Paris, 27th April, 1901.

The following is the result of the experiments made with the microbe isolated from Kelly:—

Mouse A received preventively 1/10 c.c. of antipest serum; there was inoculated with one drop of an emulsion of microbes cultivated on agar,

Mouse B did not receive any preventive serum, and was inoculated with one drop of the same emulsion. This mouse (B) died four days afterwards. *Post mortem* showed the inguinal and axillary glands much enlarged and purulent. The spleen was hypertrophied and interspersed with pseudo-tubercles. The gland-pus, spleen-pulp, and the blood contained an immense quantity of cocco-bacilli, taking well the aniline colours, and presenting a bipolar colouration but discolouring by the method of Gram.

Mouse A resisted:—The serum antipestique has thus a preventative action against the microbe. Besides the characteristics of the cultures are absolutely the same as those presented by the cultures of plague bacilli, of different origins, which I possess.

All these results confirm the conclusions of your report, and the microbe which comes from New Zealand, by its appearances in cultures and its pathogenic action, is identical with the microbe described by Yersin in "Bubonic Plague."

Accept, dear sir, the expression of my best sentiments.

Dr. BEAUMITZ.

Mr. Gilruth, 13, Victoria Street, London, S.W.