

for a tropical climate, as our physiological friends will tell us, and yet the absence of which, in my opinion, made the native anemic to a noticeable degree. These observations are so common in this climate, and have been so forcibly impressed on me, that I feel more and more the wisdom of going very, very slowly in urging alterations in the ration."

Major Stephenson, Surgeon U. S. Army, also made the following statement: "My personal experience of a year in Tampa, Puerto Rico and Santiago was that I craved and ate as much meat of all kinds relatively to all food eaten in cooler climates. I believe that meat consumption among the natives of hot climates is limited to their purses, not to their tastes. In Cuba and Puerto Rico I found the noon and evening meals in private houses and restaurants prodigal of meats of all kinds."

The absurdity of arguing from theory and not from experience was forcibly impressed on me as I read on a balcony in San Juan the essay that gained the hundred dollar prize given by Major Louis Livingston Seaman for the ideal tropical ration. As I reached the part that discussed the "distaste for fats in considerable quantities, so early acquired in the tropics" I was aroused by the cry of the "Char-r-rone" vender. For more than a month I had noticed that same cry every afternoon. I had tried faithfully during that time to detect what he was calling out, but had as signally failed, until one evening I was fortunate enough to have an Englishman educated in Spain along with me when he made his rounds. Then I learned that "Char-r-rone" was the Puerto Rican abbreviation for "chicharrones," and that this was Spanish for pork fried crisp with the skin on it. For twenty centavos I obtained a piece about a foot square. I found that while the outside was crisp the interior of my piece, an inch in thickness, was simply cold fat pork with a very little lean through it. The man sold it as a *bonne bouche* through the streets every afternoon. A couple of mouthfuls was all I desired to test, but the rapidity and relish with which my four little Puerto Rican girl friends devoured it gave me a striking example of the "distaste for fats in any quantity so early acquired in the tropics," and of the value to be attached to theories derived from analysis of "jibaro" dietary, as to what constitutes a suitable food for the tropics. On the other hand, it is now being claimed by some writers that the depression and languor of the tropics call for increased food and vinous stimulants, and this idea seems to be warranted by the large amount of meat, and of claret, or water with a dash of rum, used twice daily by the better classes of the population.

The board before which Major Seaman made his plea has recently, according to the public press, reported to the Secretary of War that, "The recommendation that the fresh meat ration be reduced in quantity was so opposed to all the teachings of experience, both in our country and in Cuba and Puerto Rico, that the board was un-

able to accept the recommendation as conclusive without further investigation. Two members of the board have served in Cuba and the third in Puerto Rico, and their personal experience has been that as much meat has been desired and eaten as in the United States, and with no deleterious effect on the health of the men. The natives of these countries are also large meat eaters when they are able to secure it, and the meat eaters are noticeably stronger and healthier looking than the poorer classes who from necessity are mainly vegetarians. The board also interviewed a number of officers and other persons that had been in the Philippines, and, taking all sources of information together, the board is of the opinion that it would be a mistake to make any fixed reduction in the meat ration." The criticism of General Henry in the above quoted article that, "The objection to the meat (of Puerto Rico) for an American is, that having no place to keep beef after being killed, it has to be put in the pot in a hot, quivering condition; and I believe this made many an American soldier ill," is in part well applied. Puerto Rican beef cannot be cooked American fashion and be other than tough and unpalatable, as it is killed about 3 o'clock in the morning, and eaten by 11 or 12 o'clock the same day. I had so fully recognized this fact that for more than a year before leaving the island I refused all "bifstek" or "rostbif," as presented by the seductive native. Only Swift or Armour refrigerated beef can in Puerto Rico be prepared American fashion. Native beef, however, prepared by native cooking, is tender and palatable, devoid of this objection and is habitually consumed with only the best results. In fact, when they ask us to replace the meat ration by vegetables we should not forget the Spanish motto that says: *Bellotas y tostones hacen malos trabajadores*.

## BUBONIC PLAGUE.<sup>1</sup>

REPORT ON THE PLAGUE IN MANILA, P. I., FROM  
JAN. 1, 1900 TO JUNE 30, 1900.

BY JOSEPH J. CURRY, M.D.

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ABOUT the 1st of January, 1900, there were reported, from the walled city of Manila, a number of deaths with history of only few days illness—these cases occurring in the same block of dwellings. As the Board of Health was at this time without a laboratory equipment, Major-Surgeon Edie, U. S. Army, president of the Manila Board of Health, requested the assistance of the First Reserve Hospital laboratory. At the time I was in charge of this laboratory, and with the consent of Major-Surgeon W. R. Hall, U. S. Army, commanding the First Reserve Hospital, I placed the use of the laboratory, for the work of investigating

<sup>1</sup> Extract of a report to the Surgeon-General of the Army on the Diseases of the Philippine Islands. By permission of the Surgeon-General of the Army.

these cases, at the disposal of Assistant-Surgeon W. J. Calvert, U. S. Army, pathologist to the Board of Health. As in most of these suspicious deaths, there were reported to have been found greatly swollen glands. Bubonic plague was suspected, in spite of the assurances of the Spanish and native physicians that the plague never occurred in Manila.

I assisted Dr. Calvert, as did also Dr. Edwin R. Hodge, and Hospital Steward Musgrave, U. S. Army, in autopsies, with cultures, and in the experimental work. The greatest care was taken of the cultures, and in the inoculation and care of the animals. For nearly six weeks the plague work was carried on at the laboratory of the First Reserve Hospital. The disease was early shown to be bubonic plague.

Numerous cultures were made, and many animals inoculated, but no case of bubonic plague occurred as a result of this work in the laboratory. I continued the work on the plague in the months of March and April, at the Board of Health laboratory, during Dr. Calvert's absence in Japan. As Assistant-Surgeon Calvert will make a full report of *his* work later, it is unnecessary for me to go into details here.

I will confine myself to the statement of a routine method used in the examination of suspected plague cases, and to a few general remarks

#### ON THE DIAGNOSIS OF BUBONIC PLAGUE.

The plague bacilli do not appear in the blood until late in the disease, save in the rapid fulminating type. Blood cultures are therefore unsatisfactory, so also is the agglutination (Widal's) test with the plague bacillus, for an *early* diagnosis.

The most satisfactory method, I believe, is that of aspiration by means of a hypodermic syringe of one of the swollen glands, preferably, of one of the *recent* swollen glands. A hypodermic syringe with large caliber needle and tight plunger answers admirably. After cleansing and disinfecting the skin over the swollen gland, a few drops are withdrawn from the gland. The syringe may then be placed in a sterile box or a test tube and carried to the laboratory without danger. Now *three* things are to be done with the material in the syringe: (1) A drop is used to make cultures—best in melted agar tubes or in bouillon from which dilutions, cultures and plates can be made. (2) A drop is allowed to fall on a clean slide, which is then smeared by a platinum needle, to be used for direct examination. (Two preparations may be made from this.) (3) The remainder is injected into an animal (mouse, rat or other animal).

The plague bacilli occur in large numbers in the *glands* even early in the disease. The specimens on the glass slides are stained, one by Gram's method, and one with Zeihl's carbolic fuchsin, or Löffler's Methyl Blue. The presence of large numbers of characteristic short bipolar staining bacilli, which decolorize by Gram's method, makes the case at once more than sus-

picious. The cultures will be ready to examine and transplant on various differential culture media by the next morning. By the second day these latter cultures will be ready for examination. Usually by this time, or shortly after, the animal (if the plague bacillus is present) is either dead or very ill, and now an absolute diagnosis can be made. This method I used many times, and in *every instance* in which the direct coverslip examination showed large numbers of short, thick bacilli, which decolorized by Gram, the subsequent history of the case, the cultures, and the inoculations of animals proved the case to be one of bubonic plague.

The above applies to the bubonic type which was the type that prevailed in the great majority of the cases which occurred in Manila. In the pulmonic type the plague bacilli occur in enormous numbers in the bloody expectoration, and are readily recognized on direct coverslip examination of the expectoration.

Sometimes bubonic plague is ushered in with a sudden chill, followed by a fever simulating closely a malarial attack. The examination of the blood in these cases fails to reveal the malarial parasite, and the blood shows a *marked leucocytosis early*. This would arouse suspicion of a septic process of some kind, and direct the observer to look carefully for a cause of the leucocytosis.

I was enabled to detect a case of plague in a very early stage, occurring in the walled city close to the army headquarters, by having my attention directed by the *blood examination* for the *malaria* and finding this condition, that is, absence of malarial parasites and presence of marked leucocytosis. This man died two days later at the plague hospital, and at the autopsy the case was found to be a very acute case of bubonic plague.

#### GENERAL REMARKS ON THE MANILA CASES.

There were recognized from January 1 to June 30, 1900, in Manila, 225 cases of bubonic plague, with 167 deaths, which equals a mortality of 74%. Of this number of cases of plague 160 were Chinese, with 115 deaths; 63 natives, with 15 deaths; and 2 Americans, with 1 death. It is rather surprising to find the death rate higher in the cases among the natives than among the Chinese. The native death rate in this series is nearly 81%, while the Chinese is not quite 72%. When the surroundings are considered, and manner of living, it would be expected that the Chinese would present a much higher percentage of fatality than the Filipinos. I am at a loss to account for this higher mortality among the natives in Manila.

There were no cases of plague discovered among the Spanish or foreign residents of Manila, and but 2 among the Americans. These 2 cases were in civil employees of the Quartermaster's Department of the Army, who were employed at Hall's *Corral* in Manila. One of these men died, and the other recovered after a moderately severe attack.

*Mode of infection.*—It was noted that the *right femoral* and *right inguinal* glands were

usually the first glands to enlarge. In considerably over one half of all cases these glands were enlarged first. The right femoral and inguinal glands were primarily enlarged nearly three times as often as the corresponding glands on the left side. It was unusual to be able to locate any fresh wounds of the extremity which appeared to be the point of entry of the infection. It was very common, however, to find skin lesions involving legs and thighs. Dhobie itch (so called) is very common among the natives, and the crotch is a favorite site for this infection. There is the possibility of introduction of the plague bacilli through infection of these areas (in which the epidermis is broken) by scratching. (As most people are right-handed, it may be possible that they are more inclined to scratch the right thigh than the left.)

It would be of interest to know if in other epidemics the right inguinal glands were *primarily* involved as frequently as in those cases which we studied in the Manila epidemic. Fleas and mosquitoes are always abundant in the Philippine Islands. Almost all cases of plague which came to autopsy showed evidence of bites by these pests. The possibility of the spread of plague by insects has been shown by the Japanese and other observers. It does not seem probable that mosquitoes play any part in the dissemination of the plague.

Objection has been made by some to the puncture of a plague gland with the hypodermic needle. These observers claim there is danger of causing general infection by this method from rupture or injury of a blood vessel, which would allow the plague bacilli to enter vessel and, by it, the general circulation. I think that this objection to the use of the aspiration method for diagnostic purposes is based more on theoretical than on practical grounds. I believe it much *safer* for both the patient and operator than the incision method as advocated by some.

### Clinical Department.

#### A CASE OF RETROPERITONEAL LYMPHANGIOSARCOMA; OPERATION; RECOVERY—NO RECURRENCE AFTER TWO YEARS.<sup>1</sup>

BY T. B. LUND, M. D., BOSTON.

ON February 13, 1899, I saw, in consultation with Dr. W. T. Patch, of Boston, G. W. B., a salesman, fifty-eight years of age, who had been obliged to give up his work by an attack of influenza in December, 1898. The attack of influenza had left him weak and miserable and he had, during January, 1899, suffered from pain in the epigastrium, extending into the left side and back. Two weeks before I saw him he had a sudden attack of pain in the epigastrium, with vomiting. His bowels had been very loose during his illness,

<sup>1</sup> Read before the Surgical Section of the Suffolk District Medical Society, February 6, 1901.

and his movements occasionally tinged with blood. He thought he had lost eighteen to twenty pounds in the last two months. His only previous illness had been an attack of typhoid fever eight years ago, and he was in good health when attacked by influenza.

We found him in bed at his home, a rather florid, flabby-looking man, with a temperature of 99.4°, pulse 80, and of fair strength, lips and extremities rather blue. His abdomen was lax, tympanitic, and not markedly tender. In the left lumbar and hypochondriac regions, extending inward as far as the median line, was a rounded, fluctuating tumor, larger in size than a fetal head at term. The tumor, from its location, suggested a tumor of the left kidney, and its fluctuation suggested a hydronephrosis. Such a diagnosis also was consistent with its recent appearance and unusually rapid growth. Mr. B. was brought to the City Hospital, and rested comfortably in bed for a few days, having no pain, and a normal pulse and temperature. The urine showed no albumin or evidence of renal disease.

On February 18th he was given ether, and by means of the Harris urine separator an attempt was made to obtain the urine from each kidney. The specimens obtained from each side of the instrument varied only in that one contained a larger percentage of urea than the other. Pressure upon the tumor seemed to cause a faster flow of urine from the left side of the instrument. The tumor, repeatedly aspirated through the loin, gave no fluid except a few drops of blood.

Under the circumstances it was thought best to perform an exploratory operation and deal with the tumor according to the conditions as found. The means so far employed had not sufficed to clear up the diagnosis, but had rendered that of hydronephrosis improbable, and that of a tumor of the kidney, which would seem from its soft consistency and rapid growth to be malignant in character, more probable. Therefore on February 23, 1899, the patient was again etherized, placed on the right side with the body flexed over a sand bag, and an incision was made from the tip of the twelfth rib to the crest of the ilium, parallel to the outer border of the erector spinæ. After incising the transversalis fascia, there was found in the retroperitoneal space, apparently below the kidney, the surface of a large, fluctuating tumor, which consisted of a fibrous sac, over the surface of which were spread several very large veins, running in a direction parallel to the spine. Aspiration of the tumor yielding only a few drops of blood, an incision was made into the sac, and it was found to contain a soft, dark-red, malignant-looking material, having the appearance and consistency of currant jelly. The incision was then enlarged sufficiently to admit the hand, and a very large quantity, more than a quart, of this red, jelly-like material removed with the hand and a large curette from the interior of the sac, which appeared to extend upward and forward in front of the kidney. There was considerable hemorrhage from the interior of the sac, and the patient col-