2. Mookta, female, aged 60, Brahmin, died March 13th, 1899. Pneumonia began March 7th, 1899.

3. Bassuntia, female, aged 11, Bindee, became ill morning of March 9th, 1899, and died 1 A.M. March 10th, 1899.

4. Agnassia, female, aged 55, Brahmin, got ill on March 10th, 1899; found with pneumonia March 13th; surreptitiously removed and died in a day or two.

5. Bindsoo, male, aged 15, Kahar, became ill on March 14th, 1899, and died on March 17th, 1899, with right femoral bubo in the Medical College Hospital.

6. Soomaria, sister of Agnassia, had nursed her, and became ill on March 16th, 1899, and was sent to the Campbell Hospital, but could not be traced.

7. Name not known, male, aged 9, Sankar, was attacked on March 16th, 1899, at noon, and died at 9 P.M. the same day.

8. Kanai, above described (Case IV).

9. Dukhee, father of Kanai, was found with pneumonia and incipient right axillary bubo on March 20th, 1899; he died in Ward Plague Hospital on March 22nd, 1899.

10. Jogoo, male, aged 8, Tantee, grandson of Dukhee; he developed pneumonia on April 14th, 1899, and died on April 19th, 1899.

CASE V.—Chumroo, male, aged 40, Kurmi.

History.—The hut is one in which two plague deaths had occurred shortly before. Hari Lal G. died with a left inguinal bubo on March 27th, 1899. Chumroo, who was a coolie in a grain shop, became ill on March 24th, 1899.

Condition on March 31st, 1899.—He was fairly nourished, but presented leucoderma on the scalp, upper and lower extremities, and several patches on the chest. He talked freely, speech not being at all affected. He could move about and sit up with ease. The tongue was dry and coated, the temperature 102.5°, the pulse 140, and the respirations 52. The eyes were not injected.

Chest.—Bronchial breathing, with increased vocal resonance, was found over both bases behind. No moist sounds were heard at bases, except one or two doubtful rales on the right side. Two inches below the point of the left scapula was a patch about 2 inches in diameter, of distinct dullness on percussion, with fine crepitant rales. Dullness was fairly marked over bases.

Raisin-like glands could be felt in both groins; these were not tender; probably they were of old standing. He was being nursed by his son in a room about 4 feet by 6 feet by 7 feet. He died quite suddenly the same night.

THE SERUM DIAGNOSIS OF MEDITERRANEAN FEVER.*

By T. ZAMMIT, M.D.,
Government Analytical Chemist.

THE object I have in discussing the bacteriology of the Mediterranean fever, is mainly to bring once more to the front the importance of having a clear and definite idea of the fever and its cause.

Knowledge of the etiology of this disease is far from being complete. Major David Bruce in 1886 discovered the micro-organism of the fever, and described its principal characters—morphological and biological. The micrococcus described by him was invariably taken from the spleen. Captain Hughes repeated the researches of Major Bruce, and added observations on the growth of the micrococcus. In his book on *Mediterranean, Malta, or Undulant Fever*, published in 1897, he gathered together all that was known about the fever. This was a step in the right direction, but the bacteriological facts were of little aid in the practical question of the causation and treatment of the fever. The micrococcus could only be discovered on the *post-mortem* table unless the spleen had been punctured during life, an operation not free from danger.

If bacteriology is to aid us in diagnosis it is imperative that we should find out a method by which the specific micro-organism can be demonstrated as soon as the patient is attacked by the fever. Everyone knows how difficult it is to give an opinion as to the nature of a fever when the patient is in the first week of his illness, and every practitioner understands the importance of a rapid diagnosis with a view of establishing a proper treatment.

Happily a practical method of diagnosis has been suggested based upon the well-known agglutination of specific micro-organisms in a solution of the blood serum from the corresponding disease. After Widal's discovery of the reaction of the typhoid bacillus when in contact with the blood serum of enteric fever patients, the method was applied to a number of diseases, among others to Mediterranean fever. In the annual report of the Public Health Department for 1898. I have endeavoured to give a summary of our attempts to use the serum reaction as a help to practitioners to come to an

* Read before the Malta and Mediterranean Branch of the British Medical Association.

early diagnosis in doubtful cases of enteric and Mediterranean fever. Our experiments were quite successful in so far as the technique was concerned, for we were able to obtain the reaction in a very short time after the sample of blood had reached us, but I am sorry to say that our enthusiasm was by no means shared by our medical colleagues, and very few of them responded to our appeal. Although this first attempt was discouraging, still the question is of such importance that I venture to repeat the appeal.

During the year 1898 the cases of fever reported to the Public Health Department were as follows:

Enteric fever	...	...	162
Mediterranean fever	...	...	510
Febricula	...	...	125

Total ... 797

Is it probable, I venture to ask, that these numbers would be the same under each heading if a bacteriological examination had been resorted to in each case? I must confess that I have grave doubts about it.

If the bacteriology of the Mediterranean fever has not been advanced further than this, I think we have at least something to work upon. Of course, not every practitioner has the time to apply himself to bacteriological researches, but everybody is able to help in his own way. Malta fever is not peculiar to our island, but the number of cases throughout the year is, most unfortunately, more than is desirable. If an effort were made by the medical community with a definite aim and purpose, I am confident that important facts would be gathered which would be of great service to us and to our patients. Knowledge of the pathology of the fever is not complete, its morbid anatomy is merely outlined, its treatment uncertain, its bacteriology in its very infancy. It is difficult, if not impossible, for a single student to grapple with these different questions, but our united efforts are bound to triumph.

In every case of fever the method of serum reaction should be used in diagnosis. It is a simple operation, easily made in the most modest laboratory. Cases with distinct reaction should then be followed closely, and some definite treatment carefully applied and recorded. In fatal cases, bacteriological and anatomical-pathological researches should be made whenever possible.

In my efforts to contribute my share to the knowledge of the fever, I submit the following facts which I have gathered during the past year:

1. The micrococcus of Bruce can be grown successfully from a culture seven months old.

2. Cultures of the micrococcus 2 years old give a clear serum reaction.

3. The micrococcus does not grow on sea water solidified with agar, not even when the sea water was taken from a sewage outfall, and was of a distinct brown colour.

4. The micrococcus grows on an aged solution of normal human fæces.

Having no connection with a hospital, I could not obtain suitable materials for further researches, but I am quite willing to help any colleague who is in a position to obtain material at *post-mortem* examinations.

A CASE OF VESICAL CALCULUS IN SIERRA LEONE: LITHOTOMY.

By W. RENNER, M.D.,

Assistant Colonial Surgeon, and Medical Officer of the Royal Colonial Hospital.

I WAS called to see Mr. P., aged 63, in May, 1899. He had recently arrived in the colony from Accra in the Gold Coast Colony, where he had been the resident keeper of the gaol for twenty-four years.

History.—His son, a druggist, informed me that his father had been suffering from hypertrophy of the prostate for some years, and that he was suffering from severe pain in the penis, and after micturition, which was very frequent both day and night, and that at times retention of urine took place suddenly. He had been passing a gum elastic catheter to relieve retention and also to wash the bladder.

Condition when First Seen.—I examined the old man *per rectum*, and found that the pelvis was occupied by a large indurated mass. On passing a large silver prostatic catheter I experienced a slight difficulty on entering into the bladder, and felt that my instrument was grazing on some hard and rough mass immediately behind the prostate, which was also en-