disease was evidently contracted in Nepal or in the Nepal Terai and remained latent for over a year until the patient was weakened by an attack of pneumonia.

13*th May*, 1906.—This patient was admitted on 19th March 1906, suffering from fever, cough and headache. The fever continued, ranging between 100° F. and 103·4° F. On the 21st, 23rd and 26th March examinations showed no physical signs of pneumonia. On the 26th March a sample of blood was sent for examination. On the 28th March a patch of consolidation was detected at the base of the right lung; on admission the spleen was found to extend three inches below the costal margin. The temperature steadily fell from the 27th March until on the 1st April it reached normal. On that date Widal's reaction was reported to be negative 1 in 40. From the 1st April patient's temperature remained normal till the 1st May when it rose to 101° F. In the meantime the right lung had completely cleared up.

Since the 1st May the patient has had irregular fever, usually intermittent rising to 101 or 102°F. in the evening and being about 97°F. in the morning. On the 3rd May a course of quinine in gramme doses according to Koch's method was begun and completed to-day. It has had no effect at all on the fever, and the patient, though professing himself well, is becoming more anæmic and the enlargement of the spleen has increased.

3*rd June* 1906.—Since last entry the fever has not been so severe. Some days being normal or practically normal and never rising above 100°F. He has been given a tonic mixture of quinine, iron and arsenic and milk and mutton added to his diet. He has no cough and no complaint except that he gets fever. The spleen now extends an inch below the level of the navel and two inches to the right of the navel. It is indurated and the splenic notch well defined. Careful microscopic examination of the blood has failed to show malarial parasites. The liver also is enlarged, extending 1½ in. below the costal margin in the mammary line.

8*th July* 1906.—Patient's condition remained the same, and on 29th June 1906, a sample of his blood was despatched to the Sanitary Officer to be tested for the micrococcus melitensis. To-day it is reported to be negative 1 in 40. The temperature is intermittent, ranging from 97°F. to 100·5°F. A course of arsenic in increasing doses has been commenced.

23*rd July* 1906.—After continuing the arsenic for ten days, giving in the end seven minims of Liquor Arsenicalis thrice daily, it was found to have no effect on the temperature and was stopped, and iron and quinine re-commenced. The temperature remains as in last note except that it is slightly higher in the evenings. Patient's general condition unchanged. There appears to be more pigmentation of the skin than is usual even in sick Gurkhas.

2*nd August* 1906.—A course of eight days' intramuscular injection of 5 grains hydrochlorate of quinine daily has had no beneficial effect whatever.

27*th August* 1906.—Patient's temperature varies between 100°F. in the evening and 97°F. in the morning.

Microscopic examination of the fæces by Lieut. R. T. Wells, I.M.S., shows the presence of a fair number of the eggs of tricho-cephalus dispar. The patient has been put on fluid diet. Blood count=3,750, white cells in a cubic millimetre.

31*st August* 1906.—On the 29th August 90 grains of thymol were given and produced severe diarrhœa. No tricho-cephalus dispar was found in the fæces. The purgation left the patient very weak.

17*th September* 1906.—The permission of the patient and his Commanding Officer having been obtained, a splenic puncture was made with an antivenene syringe on 15th September 1906 and several films made. Lieut. R. T. Wells, I.M.S., stained a film with Jenner's stain, and the Leishman-Donovan body was discovered and two films sent to the Sanitary Officer, Northern Command, for confirmation.

On the evening of the 15th August two motions were passed containing blood and mucus, and the temperature went up to 102°F. Yesterday there were two motions, one of which contained a drop of blood. There are no signs of peritonitis and there is now no pain. It is difficult to believe that the syringe penetrated the stomach or intestine as the spleen is very much enlarged. The puncture was made just below the costal margin and the needle is only 1½ in. long. The full length of the needle was inserted.

22*nd September* 1906.—The temperature became normal on the evening of the 17th September and has remained normal since that date and no blood or mucus has been passed since last entry.

There is now no swelling pain or tenderness at the seat of the splenic puncture.

27*th September* 1906.—Patient who has been put on small doses of strychnine remains *in statu quo*. The Sanitary Officer, N. C., reports that he has discovered in the films sent to him "bodies similar to Leishman-Donovan bodies which with clinical history render it probable they are such."

A Mirror of Hospital Practice.

HEPATIC ABSCESS, AND SOME POINTS IN THE DIAGNOSIS OF MULTIPLE HEPATIC ABSCESS.*

BY G. G. GIFFARD,

MAJOR, I.M.S.

HEPATIC abscess, to us practitioners in India, must always be one of the most interesting diseases, and to the patient one of the most grave, and it is with the view of attempting to use the collective experience and knowledge of the members of this Branch that I have ventured to open this discussion and to produce the notes of only six cases. These six cases, however, seem to me to be of very considerable interest, and help to illustrate the value of the diagnostic points usually brought forward in the elucidation of the one most important problem that every case of hepatic abscess presents. I suppose all here will agree with me that there are clinically two distinct kinds of hepatic abscess, one of which used to pass, in the schools, under the name of single tropical, and the other multiple septic, or dysenteric. Of the former it was held that, given good drainage, recovery might be confidently expected, and of the other variety it was equally maintained that death must result. I am now almost beginning to doubt whether this is absolutely true. Nevertheless I think we can state that multiple abscess is quite usually fatal, and single abscess cases usually recover. I know that after having served 12 years, on and off, in the General Hospital, and after having seen the practice and heard the advice of Browne, Price, Maitland, Grant and J. Smyth, I have come to

* Paper read at Madras Branch of Brit. Medl. Assoc.

look with pity and a feeling of helpless inability to relieve, on those patients suffering from hepatic abscess whom I have reason to believe are the subjects of multiple hepatic abscess. The six cases that I now propose to quote to you have given me much to think about, and have begun to shake my opinion as to the *possibility* of making a correct diagnosis, or rather the possibility of making a correct prognosis.

The diagnostic points that I propose, briefly, to discuss in their reference to the differential diagnosis of multiple and single hepatic abscess are—

Before operation.

1, The history of dysentery, alcohol, malaria and exposure.
2. The manner of the onset of the disease.
3. The temperature before operation.
4. Shape and size of the liver and the situation of the abscess.

After operation.

5. The fall of temperature after operation.
6. Septic look, condition, sweats and typhoid state.
7. Nature of the pus and discharge.

I will now give you a short résumé of each case.

First case.—This was a young European Assistant Surgeon, whose previous medical history had been uneventful, with the exception of a tendency, when a medical student some 8 years ago, to consolidation of the apex of the left lung. The beginning of his illness had been the occurrence of a mild dysentery. He came into hospital early, and the signs and symptoms of hepatic disease were almost absent. For about a month however the temperature was always 100 to 101 and the liver very slowly enlarged without tenderness and without any affection of the pleura. The signs were as yet indefinite and were practically limited to these :—

1. General hepatic enlargement.
2. Diminution of air entry at the base of the right lung.
3. A progressive anæmia.
4. A tongue which slowly became more and more coated. It was considered advisable to make exploratory punctures. Under an anæsthetic the first puncture was made in the posterior axillary line well up towards the top of the right lobe of the liver. Pus was found at once and the ordinary operation with excision of 2ins. of 2 ribs performed. The patient was quite comfortable after the operation and for a few days seemed likely to make a good recovery, but his temperature was unsteady. At the end of the first week after operation it was obvious that instead of progressing towards recovery he was slowly drifting into a septic and cachectic condition. The wound was again opened up under chloroform and a second abscess filled with thick, dark material, half pus and half broken down liver substance, was evacuated. This operation did the patient no good, the wound assumed a filthy condition, the discharge almost ceased, the temperature became markedly irregular and the patient rapidly wasted away. The exacerbation of the temperature being accompanied by severe sweats. He died suddenly, after remarking that something seemed to have given way in his inside.

Second case.—This patient was an Englishman, 38 years of age, who had been in India some 16 years ; the early period of his service had been spent in Assam where he had suffered, 14 years ago, from occasional very severe but short bouts of ague. He said that he had not had ague again for many years. He was sent to Madras from S. Arcot district in a more or less convalescent state, because of a fever that had proved intractable. His illness had begun with a fortnight of severe dysentery, during which he had lost much weight. The fever and pain in the right side were of one week's duration. He had always been a very temperate man. When I first saw him, his temperature was 100, but ran up that afternoon to 103. He was very pale, very tired after his railway journey, and was still troubled by a dysentery of a not very active nature. The patient, however, looked very ill indeed, his tongue was dry, heavily coated, his pulse rapid, sudden and feeble, and there was a distinct yellow, if not actual jaundice, tint of the skin. He looked *septic*, if I may use such an expression. That afternoon, and every afternoon for the next week, his body was shaken for an hour or more by a most violent rigor (of the kind I have not seen since I left Burma), and this was followed by drenching sweats which were I think the most severe I had ever seen, and it required the most careful nursing, brandy, strychnine, hot water bottles, etc., to keep him alive. At this time the lower edge of his liver was so tender that the lightest palpation was unbearably painful. I had little hesitation in telling his friends that he was suffering from a fatal kind of hepatic abscess, meaning the septic and dysenteric kind. The liver enlargement slowly increased, and Major Donovan's examination of the blood gave a marked polymorpholeucocytosis. At this stage I would, in the ordinary course, have explored his liver, especially as a slight cough now appeared and there was distinct friction to be heard over the base of the right lung. Colonel Browning saw the case with me and we came to the conclusion that he was too ill to stand any kind of operation. By the end of the next five days the patient had somewhat rallied, and the rigors had entirely ceased, although the liver had still further enlarged, and the basal pleurisy was more marked. To make a long story short, he was aspirated deeply in five different places, and although soft spots were encountered in two or three places in the right lobe, pus was not found, and the operation resulted in the aspiration of some ounces of black blood. His recovery was immediate, uninterrupted and much more obvious in the aspect of the patient than in the temperature chart, as the pleurisy on the right side continued for some time Here, then, was a patient obviously septic, almost moribund, jaundiced, dysenteric, and wasting rapidly, with universal enlargement of the liver and, as far as I can tell, *no abscess* at all, either single or multiple.

Third case.—A handsome young athlete, one of Sandow's troupe, who had been told 18 months previously by a doctor in Johannesburg that he had an abscess of the liver and had better go into hospital, but as he did not believe this and was busy, he pushed along all right for about a year. He was then in a mounted corps. He joined Sandow and came to India, but he felt so generally slack and unfit that he was not able to continue to take part in the pupils' show, and was allowed to take the part of instructor. He, however, soon found even this too much, and noticing now that he was rapidly losing weight, he came to the General Hospital. The first glance at him as he stood in the office suggested liver. Pale, thin, with a glassy eye, his collar obviously too big, the clothes of a larger man hanging loosely about him, skin distinctly yellow but conjunctivæ not jaundiced, and a dirty door-mat tongue. Having come only for advice on account of shortness of breath, he was surprised to find himself ordered at once into bed, as he looked so utterly unfit to be up and about masquerading as an athlete and showman. He gave a history of African dysentery two years ago, and pain in the right side and shoulder for over a year. He was found to be suffering from the symptoms, and he presented the obvious physical signs of a large abscess

of the right lobe. He was not operated on for several days, because he began to pick up in strength by simply lying in hospital and because I was suffering from a bad finger at the time Colonel Browning kindly did the operation, which proved to be an easy one. The temperature at once fell to normal, but the pain over the liver and tenderness were aggravated to an extraordinary degree, and when ten days afterwards the temperature assumed a decidedly septic appearance and the patient's tongue became dry, coated and brown, I again pointed out to my assistant and students that such a history of dysentery and exposure followed by great and universal hepatic tenderness and marked wasting, with a brown, furred tongue, meant only one thing: multiple abscess. Once more I was off the line, and the administration of a brisk purgative, suggested by my very astute assistant, Mr. V. Rao, resulted, as you see in the chart, in a steady fall of temperature and ultimate complete recovery. I can assure you that on June 5th, 6th, and 7th, he was a sinking and septic case. He made an uninterrupted recovery, with the single exception of a rise in temperature on July 4th, 5th, 6th, 7th. This rise was easily ascertained to be due to some retention of pus, and the dilatation of the orifice of the sinus, at Colonel Browning's suggestions, with Hegar's dilators at once put things right. He left hospital well and strong. The bare record of the facts gives but a poor impression of his state after the operation, and of the general appearance that made me almost certain that this was a case of multiple abscess.

Fourth case.—A very fat and florid European, Sergeant of Volunteers, was admitted on 2nd July 1905 with this history:—That he had an attack of dysentery that lasted for a fortnight in May 1905. That on 19th June, 1905, after a certain amount of good living, on his return to his station by train, he got a bad cold and chill, which kept him in bed, with pain in the right side and right shoulder, and a temperature of 102. These symptoms grew worse daily, and he came to the General Hospital. He admitted that he was a moderate indulger in alcohol, and an uncharitable person might have said that he looked it. An abscess of the right lobe was more or less staring one in the face, with right basal pleural friction, enlargement upwards, and general enlargement of the liver, jaundice, œdema of the skin over the lower ribs on right side, foul tongue, fever, etc.

The operation was easy, and as an operation successful. He was not in the least relieved by the operation. He felt no better, as he looked *well* all along and said that he felt well, but his temperature remained high, and indeed steadily rose; there was very little discharge, and what there was, was of the prune juice variety, rather than yellow pus.

As the liver became no smaller, I thought that this was a simple abscess draining badly. I put my finger deeply into the wound under CHCL3 on the 11th day and also a probe and sinus forceps, but struck nothing further. The patient now began to emaciate in a way I can only compare to that of a horse suffering from surra, and on the 15th day he became markedly weaker and his temperature fell to almost normal. This time, however, I was not deceived. There was no corresponding improvement in the man. He died suddenly on the 23rd day, with a normal temperature, and his liver consisted of more multiple abscess than of liver tissue.

Fifth case.—A poor, thin Eurasian—one of the most sickly, whining, and hysterical degenerates that ever came to hospital. Has had dysentery lasting a month no less than three times during the last five years. The first dysenteric attack was followed by pain, swelling, etc, on the right side, and Colonel Maitland operated on an abscess five years ago on the right side. The scar is still very clearly seen. The pain of this attack is confined to the pit of the stomach and the edge of the liver in the left lobe. The pain radiates up into the left side and any attempt at a deep breath seems to cause intolerable pain. The patient is very highly neurotic, and weeps and laughs through his tears in quite a female way. He had been in hospital about a month previously, but no certain diagnosis had been made, as there was only pain and no enlargement of the liver.

I opened an abscess almost exactly below the enzyphoid cartilage, and the patient, who wept and trembled until under the anæsthetic, stood the operation badly and was no better, and, indeed, in two days' time considerably worse. I noticed about the 6th day after the operation that the discharge was no longer purulent, but was almost entirely pure bile, and that fragments of bile-stained, gummatous material issued when the wound was irrigated. He was therefore given large doses of Pot. Iod. and forthwith began to recover. The discharge became typically gummy and more of the pieces of breaking down (gummatous) liver came away. The patient made good, if slow, recovery, interrupted by an attack of cholera that nearly finished him off. Had he not had iodide, I feel certain he would have died, and the temperature have remained much as it was in the first week after operation. I assure you, Mr. President, that until this year I thought it was possible to make a fairly accurate estimate of a man's chances of recovery after the operation for hepatic abscess. If these five cases shook my belief, the sixth, to use an American expression, fairly broke me up.

Sixth case.—The sixth case was that of an hospital assistant who had suffered many things in his comparatively short career. Some of you may remember that he came here, and I showed him to you last meeting. He admitted to recent syphilis, considerable drunkenness, dismissal and re-instatement in Government service, with the attendant mental worry of such proceedings, to bad malarial fever, to bad dysentery and to poor living. He looked, on admission, a dying man, and there was a large abscess bulging and pointing in the mid axillary line between his 9th, 10th and 11th ribs. He was so weak and ill that I only half gave him chloroform, preceding the operation by a hypodermic injection of 10m of strychnine, and making one large slash straight through everything, chopped out a piece of rib, rolled him over and wondered if it would kill him. The pus was not measured, but it poured out over everything. In doing this rapid operation I pushed two fingers into the cavity, to allow the pus to escape slowly, and to feel the extent and character of the whole in the liver. [Next day I had red lines all up my forearm and a temperature of 103. It was now my turn for a little knife and carbolic acid from the friendly and willing hands of my colleague, Captain Niblock.] The continued foul tongue and jaundiced aspect of the patient, and the ragged loculated condition of the hole in the liver, decided me that it must be a case of septic and multiple hepatic abscess. He did very well for the first two days, except that the discharge was of the prune juice and broken down liver type, and not yellow pus. By five days after the operation he was as bad as ever, and there was no discharge worth speaking of. He was again put on the table, one more rib resected, and a fresh large abscess opened. He now improved steadily, but slowly, but his tongue never was right and he still continued emaciate. Some eight days after the operation, the temperature, friction dullness, and eventually crepitations with rapid breathing and a good deal of pain on the right side, proclaimed a pneumonia and pleurisy of the base of the right lung. Treated as for an ordinary lobar pneumonia, he again decidedly improved, and until some five days before his next and third operation he seemed about to recover. Then he suddenly became worse, and a further examination of the chest revealed a large accumulation of fluid. Once more on to the table, once more a rapid operation, once more a pint of pus, this time in the pleura. Collapsed, complaining of great thirst, and with very rapid pulse and subnormal temperature, for two days he hovered

between life and death, but as he again somewhat rallied, the wound became septic, and grey sloughs began to form all around the two large holes in his side. The discharge became small in quantity and disgusting to see and smell; in fact, in the language of the ancients, a bloody and fœtid ichor. The ribs stuck out necrotic in the everted grey and sloughy wound. I told my assistant to give him as much morphia as was necessary to help the poor fellow, who now knew that he was dying, out of this world. Mr. V. R. and an enthusiastic student, however, did not entirely lose hope, and to make a long story short, constant and assiduous attention to the irrigation and cleaning of the wound pulled him through. I had only twice before seen such a wound of the liver in such a state and had always believed such cases hopeless. The patient is, however, alive and well and daily growing stronger. He now also, I believe, is a teetotaller.

Mr. President, I have selected these six cases, as you are aware, to stimulate discussion, and I hope some more experienced or more observant of our members may be able to tell us if there is any way, or point out the likelihood of a way being eventually found, to enable the medical attendant to form a clear opinion as to the nature of the disease in abscess of the liver.

DISCUSSION.

Lieut.-Col. Browning remarked that the differential diagnosis as between single and multiple abscess was, before operation, beset with difficulties, and it is only to tropical experience and tropical investigation that we can look for help.

Men practising in temperate climates see hepatic abscess practically in one form.

A man leaves the East with hepatitis. In a very large number of cases he is quite well before reaching Europe, or if he has already developed a moderate sized abscess, it may, as I pointed out on a previous occasion, become quiescent, or, as is very much more frequently the case, it develops slowly without much constitutional disturbance. Adhesions form, and when he appears before a Surgeon in England, there is a distinct visible tumour, which can be explored with a hypodermic needle and operated on without any difficulty. How different such a case is to the not uncommon type one sees out here, where there is no local tumour; there are present acute hepatitis, high fever, etc., and one has to explore the probable areas, and when one operates, it is mostly through a healthy pleura and on to a liver with no adhesions, through a congested and highly vascular organ, to an abscess situated in the substance of the liver.

The diagnosis of multiple abscess before operations is, in our present state of knowledge, impossible. Subsequent to operation, the presence of other abscesses may be fairly surmised—continuance of fever, non-decrease in hepatic area, state of the tongue, sweats and general loss of weight, all point to this, but as Major Giffard infers, are not to be absolutely relied on. We must look to our physicians for more help regarding the question of leucocytosis. Is there a progressive decrease after operation, or does the blood count show a steady relative increase day by day?—these are points we require more information on.

Words can hardly express how profoundly ill case X mentioned by Major Giffard was, and his rapid improvement after simple exploration was very remarkable, but as is well known, this improvement in symptoms under such circumstances is a matter of common experience. I well recollect Maclean pointing it out to us 25 years ago.

Major Crawford said the subject of suppuration in the liver was one they were all more or less practically familiar with, but that long ago he felt the futility of attempting to distinguish between single and multiple abscesses, and the more cases the Surgeon saw and operated on, even after the most elaborate care in watching the symptoms beforehand, the greater was his caution in attempting the differential diagnosis. He felt sure that in spite of either difficulty or doubt the Surgeon's duty was to cut when he was convinced that pus was awaiting evacuation, irrespective of all other considerations, even though he might reasonably anticipate the subsequent revealing of multiple abscesses in the organ. The blood count question was useful in combination with clinical symptoms, and if pointing in the direction of suppuration, should guide the Surgeon's line of conduct. The existence of leucocytosis did not, in Major Crawford's opinion, point absolutely to actual suppuration; he considered that where pyogenic organisms were present prior to the suppuration stage, phagocytosis might reasonably be presumed to deal effectually in some cases with the inroad of such organisms, and prevent actual breaking down of tissue which is the essential element in suppuration. Only in this way could some cases be explained, where all the clinical signs point to the presence of suppuration and the blood count verifies this diagnosis, but where the tumour in question within a few days loses all its seriousness, symptoms subside and the patient is soon out of danger. He gave, as instances, some cases of appendicular trouble presenting all the symptoms of septic poisoning and local signs pointing to suppuration, yet they recovered without operation. Every surgeon in India must have had patients with similar histories. There will always be difficulty in diagnosing the presence of pus in these cases until the knife is used, although it would be perfectly justifiable to operate when the clinical and microscopical evidence both point to suppuration. As regards causation, infection of the liver, apart from pyæmia, was part of the general subject of intestinal infection and prevention must be carried out on these lines if it is to be effectual.

Capt. Niblock, I.M.S., said :—

I have operated on 58 cases of liver abscess, of which 14 were multiple, *i.e.*, 1 in 4. This is, I believe, about the usual ratio in Madras.

In my opinion there are *three* varieties of *amœbic abscess*, viz., *single* and *multiple* as usually described, and a third variety in which one large abscess is present together with several small ones. That this last variety begins as a single abscess, but that owing to delay in operating, unnecessary damage to the liver substance or abscess wall, or insufficient drainage after operation, other parts of the liver become secondarily affected. Thus I have seen several cases in which one abscess containing over 30 ounces (in one 87 ounces of pus was present in the liver) the rest of the liver tissue being studded with small abscesses, as verified by *post-mortem* examination. It is improbable that all these originated at the same time.

I agree with Major Giffard's statement that it is not possible to come to any definite conclusion, from the history or clinical appearances, as to whether an abscess is single or multiple. Even after operation the question cannot be decided with any degree of certainty. The following cases illustrate this :—

Case I.—T. R., Eurasian, 43, was admitted to the General Hospital for hepatitis and bronchitis. There was a distinct history of dysentery, alcoholism, syphilis, malaria, &c. There was marked enlargement of the liver in all directions, especially downwards, the right lobe extending for about three fingers' breadth below the ribs. The left lobe was prominent. Exploration of the left lobe showed the presence of pus, and one abscess was evacuated containing 8 ounces of pus. As this did not seem sufficient to account for the enlargement, the right lobe was carefully explored, with the result that nothing but blood was drawn off. He was sent back to bed with a probable diagnosis of multiple abscesses of liver. His subsequent progress showed, however, that such was not the case, as he recovered rapidly without any further bad symptoms and left hospital apparently quite well.

Case II.—C. B., History of dysentery followed by hepatitis. After a few weeks' treatment for hepatitis, the left lobe became distinctly enlarged, the right slightly so.

An abscess, the size of an orange, in the left lobe was evacuated. The patient's temperature after this fell to normal and all pain disappeared. Nine days afterwards, when the abscess was almost healed, fever re-appeared, the temperature varying between 99·8 and 103. He again suffered from night sweats, frequently spat up small quantities of bright red blood, and friction sounds could be heard over the right lobe, which was not, however, appreciably enlarged.

After a few days of this, multiple abscesses in right lobe were suspected, and a thorough exploration with the needle was carried out. No pus was discovered, and only a few ounces of blood were drawn off. His temperature, however, immediately fell to normal and never rose again, and all the other symptoms disappeared. Nine months afterwards I had a letter from him stating that he felt quite well and had just been examined by Surgeon-General Branfoot, who told him that his liver was healthy.

The following case shows how misleading the history may be even when a patient is educated and has no desire to conceal anything :—

Major ———, R.A., was admitted to the General Hospital for hepatic abscess. He stated that he was quite certain he had never suffered from dysentery. He died shortly after admission, and on *post-mortem* examination was found to have multiple liver abscesses, together with marked dysenteric ulceration in the large intestine. Many similar instances are known to me.

The history of alcoholism, although suggestive, does not assist one much, as I have seen cases both of single and multiple abscesses occur in persons who were total abstainers from alcohol.

The temperature is also an uncertain guide, as it may be normal where even large or multiple abscesses exist.

In one of the cases quoted by Major Giffard, marked improvement followed exploratory puncture. I personally know of over forty cases, in which an exactly similar result has taken place, and in such cases, *i.e.*, where no pus is discoverable, always make it a point to draw off several ounces of blood.

I wish to take exception to one statement made by Major Giffard, *viz.*, that hepatic abscess may be opened too soon. I do not think this is possible ; but believe that an abscess should be opened as soon as discovered. In fact, unless this is done, it is impossible in many cases to tell how big the abscess may be. In 15 of my cases the abscess contained 10 ounces or under ; all of these patients recovered. Out of the remaining 29 cases of single abscess, 9 died.

NOTE ON A POSSIBLE CASE OF MALTA FEVER.

BY A. G. NEWELL, M.D., D.P.H.,

Kurseong.

AS it is of importance to determine the questions of prevalency of Malta fever and degree of such in India, as well of the classes among whom it is possible to be met with, I give the following notes on a case which I was called into consultation at Kurseong in June 1903. The patient, a Bengali, was being attended by a