intoxication. Following this, one would naturally expect the metastatic infection of the liver. I would give it as my opinion, therefore, that the case was one of suppurative pylephlebitis, following suppurative appendicitis.

[See “Hygiene and Diseases of Warm Climates,” by Davidson, p. 631, plate 3.—Ed.]

NOTES ON CASES OF ABSCESS OF LIVER WHICH WERE ADMITTED TO STATION HOSPITAL, CAIRO, FROM 1898 TO 1903.

BY LIEUTENANT-COLONEL C. R. WOODS.

Royal Army Medical Corps.

No. 1.—Private ——, 1st Seaforth Highlanders, aged 27, seven years service, had suffered from dysentery in India and Egypt. Admitted to hospital May 27th, 1898, suffering from intermittent fever, loss of flesh, pain in the side and constipation. The liver was slightly enlarged, the skin sallow, tongue furred, and the abdominal walls became rigid on attempting to palpate the liver. On June 1st pus was discovered on aspiration of the right lobe of the liver through the seventh intercostal space in the axillary line. A portion of the eighth rib was removed, the abscess opened, and a large quantity of dark coloured pus was evacuated. Very free bleeding ensued, but was stopped by plugging. The plug was removed next day and the abscess cavity irrigated. The patient progressed favourably for the next few days, but a subacute attack of dysentery came on, and the patient finally succumbed to exhaustion on July 7th. The post-mortem examination disclosed, besides a large abscess in the right lobe which had been opened, several smaller ones scattered through the right and left lobes. Dysenteric ulcers were numerous in the colon.

No. 2.—Private ——, 1st Cameron Highlanders, admitted to hospital August 1st, 1898, suffering from dysentery. In spite of treatment he made no satisfactory progress, and died on September 21st. At the post-mortem examination, besides the dysenteric ulcers in the large intestines, were found two abscesses in the liver.

No. 3.—Private ——, Royal Welsh Fusiliers, aged 23, five years service, admitted to hospital January 23rd, 1899, suffering from the effects of a severe kick of the stomach received while playing football. He remained in hospital suffering from obscure symptoms, cough, pain, and evening rise of temperature, with slight enlargement of both liver and spleen. On February 27th pain over the liver was severe and there was frequent cough. Aspiration through the eighth intercostal space in the mid-axillary line disclosed pus, and an abscess in the right lobe of the liver was opened, after resection of a portion of the rib. A large quantity of pus was evacuated with relief to symptoms. On March 30th
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the temperature began to rise, owing to the drainage tube becoming blocked; the opening was enlarged and a fresh tube was put in. The temperature fell to normal again and the patient made a good recovery, leaving hospital for England in May, 1899.

No. 4.—Private ——, R.A.M.C., admitted to hospital August 5th, 1898, suffering from diarrhoea, intermittent temperature, sleepless nights, furred tongue and enlarged liver. He had a history of former dysentery. On September 12th, 1898, pus was found on aspiration, and incision made into liver. A large quantity of pus was evacuated, a drainage tube was inserted, the abscess cavity gradually contracted and the patient made a good recovery, leaving for England October 30th, 1898.

No. 5.—Private ——, 1st Cameron Highlanders, aged 23, four years service, admitted to hospital June 26th, 1899, suffering from hepatitis. On August 1st liver was enlarged and tender, and an attempt was made to find pus in the liver by aspiration, but unsuccessfully. The patient's condition, however, did not improve, vomiting set in and another search was made on August 4th, this time successfully. An incision was made into the liver between the seventh and eighth ribs, and a large abscess evacuated. The patient, however, did not improve, but gradually sank, dying on August 10th, 1899. The post-mortem examination showed several abscesses in the right lobe, one of which had burst into the pleura; two smaller ones had coalesced, and had been drained at the time of the operation.

No. 6.—Private ——, Cameron Highlanders, admitted February 15th, 1899, suffering from pain in the right shoulder, fever, constipation, and later on pain over the lower border of the liver. On February 28th, March 4th, and March 10th, he was aspirated in several places, but no pus found. On March 13th, however, the liver was constantly enlarged, and much pain complained of. The liver was again carefully explored with the aspirator and pus found in the right lobe. The abscess was evacuated by an incision through the ninth intercostal space. The patient died on March 15th, and at the post-mortem examination, numerous abscesses were found in both lobes.

No. 7.—Private ——, A.S. Corps, aged 23, service two years, admitted August 1st, 1899, suffering from fever, loss of appetite, and vague pains. There was a previous history of dysentery, but at this time no enlargement of, or tenderness of, the liver was present, the abdominal muscles became rigid on palpation, and there were large cutaneous veins over the abdominal walls. On September 15th the right lobe of the liver was explored with the aspirator, between the seventh and eighth ribs, and pus found. A free incision was made and a large abscess evacuated. Temperature became normal but discharge continued. On September 20th an attack of dysentery came on, and on September 25th he complained of great pain and shortness of breath. He now suffered from collapse, frequent vomiting, and died on October 4th, 1899. The post
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mortem showed abscess in right lobe of liver invading diaphragm and lung. The abscess had been opened but the cavity was not contracted, owing to adhesions to diaphragm and right lung, the neighbouring part of which was inflamed. The large intestines showed several dysenteric ulcers.

No. 8.—Sergeant ——, M. M. Police, admitted to hospital September 2nd, 1900, for hepatitis; pus found in right lobe of liver September 13th, 1900, and an incision was made into the abscess through the seventh intercostal space. He died on September 20th, 1900. Two abscesses were found in the right lobe, and one in the left lobe.

No. 9.—Gunner ——, Royal Artillery, admitted October, 1900. There was an old history of dysentery. Symptoms of abscess of the liver were present, and pus having been found in right lobe by aspiration, the abscess was opened by incision just below border of ribs on the right side, and a large quantity of pus evacuated, but patient died on October 30th from exhaustion and concurrent dysentery. No post mortem was made.

No. 10.—Private ——, 11th Hussars, aged 27, seven years service, eight months in Egypt, admitted to hospital July 8th, 1900, suffering from pain over the liver, no vomiting, no jaundice. A friction sound was heard over the eighth intercostal space. On July 23rd, 1900, as the pain had become more severe and of a stabbing nature, the right lobe of the liver was explored and pus found. A free opening was made, a tube inserted, and cavity of the abscess well drained. Satisfactory progress was made till August 6th, when the temperature began to rise, but next day a profuse discharge took place from the wound with amelioration of all his symptoms. It is supposed another abscess had burst into the one originally opened. He became convalescent and was sent to England October 31st, 1900.

No. 11.—Private ——, aged 27, five years service, one year in Egypt, admitted to hospital July 27th, 1900, suffering from pain in the back and fever, scanty dark coloured urine, stationary pain over liver. On August 11th, 1900, he was aspirated, and pus found in right lobe of liver. Abscess incised and drained through seventh right intercostal space. Another abscess was discovered, six inches posterior to the first incision; this was also evacuated. The patient did badly for a few days after this double operation, and was delirious on August 13th, but gradually recovered, and as the abscesses had healed he was sent to England October 31st, 1900.

No. 12.—Private ——, 11th Hussars, admitted to hospital July 20th, 1900, with evident signs of abscess of liver. There was a previous history of dysentery. Aspiration, pus found in right lobe, abscess opened into and drained, made an uneventful recovery, and went to England October 31st, 1900.

No. 13.—Gunner ——, Royal Artillery, admitted to hospital May 20th, 1901, with obscure feverish symptoms; right lobe of liver aspirated and pus found. The abscess was opened by free incision between the seventh
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and eighth ribs, and a large quantity of pus evacuated. He appeared to be relieved by the operation, but he died on July 15th, 1901, from dysentery, and at post mortem two small abscesses were found in left lobe, besides the one originally operated on.

No. 14.—Private ——, Seaforth Highlanders, admitted to hospital November 1st, 1901, suffering from abscess of liver. He was at the time in a critical condition. He was operated on, and pus evacuated, but he never rallied, and died on November 7th. There was an old history of dysentery. No post mortem was made.

No. 15.—Private ——, Military Police, admitted November 24th, 1901, for symptoms of abscess of left lobe of liver. The abscess was incised and drained through the abdominal walls on November 26th, 1901. He made a good recovery, and left Egypt for England in January, 1902.

No. 16.—Private ——, 11th Hussars, aged 27, seven years service, two years in Egypt, had had dysentery formerly. Admitted on December 10th, 1901, suffering from symptoms of abscess of liver. Operation by incision and drainage through seventh intercostal space on December 10th, 1901, and made a good recovery.

No. 17.—Lance Corporal ——, Seaforth Highlanders, aged 24, two years service, two years in Egypt, admitted to hospital September 29th, 1901, after having suffered from an attack of enteric fever. He was found to present symptoms of abscess of liver. He was operated on on June 26th, 1902, by resection of portion of seventh rib, just external to vertical nipple line, and 26 ozs. of pus were evacuated from the right lobe of the liver. A second operation was performed on July 3rd, 1902, and contents of another abscess evacuated, and a third abscess was operated on on August 13th. The patient bore these different operations well, and his condition improved after each, but the improvement was not permanent, and he died on September 24th, 1902. Post-mortem examination showed multiple abscesses in the liver in both lobes.

No. 18.—Private ——, Leicester Regiment, aged 24, two years service, one year in Egypt, was admitted to hospital on August 3rd, 1902, suffering from pain in the side, and on September 9th, 1902, pus being found on aspiration of the right lobe, two inches of eighth rib was removed in mid-axillary line, and abscess evacuated. Recovery was complete, and he went to England on November 30th, 1902.

No. 19.—Private ——, 3rd Royal Fusiliers, aged 26, two years service, was admitted to hospital on July 22nd, 1903, suffering from slight enlargement of liver, pain in the right side, and obliteration of the intercostal spaces on the right side. On July 26th pus was discovered by means of aspiration, just below the ribs on the right side in the nipple line. An incision was made into the right lobe of the liver through the abdominal walls, and pus evacuated. He is now (August 12th) convalescent. He suffered from dysentery at Khartoum during the present year, and was sent to Cairo for change in June.
Two cases of liver abscess in officers also came under my notice; one was operated on, portion of rib resected, and abscess drained; he made a good recovery, and served afterwards in India and Egypt, and is still serving, and apparently enjoying excellent health. The other was an officer who was invalided from the Soudan campaign with hepatitis, but in whom an abscess formed, and discharged itself through the bowel, probably the large intestines. His recovery was complete, and he served afterwards in Egypt and South Africa, and is still serving in the army.

The points of interest in these cases are:—

Etiology.—One case was probably due to injury, vide No. 3. One case came on after enteric fever, vide No. 17. Eight cases gave a history of dysentery, or showed remains of dysenteric ulcers, at post-mortem examination. Eight cases were apparently idiopathic, or due to slight injury to an organ predisposed by climatic influences and errors in diet to inflammation. Dysentery is sometimes present while the patient is suffering from the abscess, but generally precedes it, sometimes by years.

Pathology.—The abscesses discovered after death were of all sizes, from the large solitary abscess to multiple small abscesses varying from white dots to the size of a large orange. There were sometimes, however, one large abscess and two or three small ones. These abscesses varied much in appearance, but I saw none the contents of which had apparently become absorbed or cretaceous.

Symptoms.—The disease made itself manifest under various conditions, the symptoms being at times very obscure, and in others tolerably distinct. In most cases the symptoms ran a slow, intermittent course, but in others the disease ran an extremely rapid course, death appearing to be caused by toxemia. In very few cases was jaundice present, and the sclerotic remained clear in most. The most constant symptoms were pain and fulness in the right side, rigidity of the abdominal muscles, slight enlargement of the liver, obliteration of the intercostal spaces, and fever, generally of a hectic type. The bowels were inclined to be constipated if dysentery was not present, and the tongue was coated with a thin, light yellow fur. Vomiting and cough were often present as reflex symptoms.

Diagnosis.—Pain, slight enlargement of the liver, rigidity of the abdominal muscles, obliteration of the intercostal space, and the absence of any other apparent disease, lead one to suspect abscess of the liver, but it is only on aspiration that the diagnosis can be cleared up, although a perusal of the above cases show that at times aspiration fails to find the matter, even though an abscess be present. Owing to severe concurrent disease, abscess of the liver may be overlooked, vide Case 2.

Terminations.—When the patient dies, the disease is generally brought about by exhaustion, or concurrent dysentery. Death sometimes occurs very rapidly, vide Case 14. If the abscess or abscesses can be opened and drained the operation is very successful, but in the case of more than
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one abscess they are exceedingly hard to find, and as a rule the prognosis is very bad.

Case No. 17 is an instance in which more than one abscess was operated on at the same sitting. Treatment was unsuccessful in all cases in which the abscess burst into the lungs or pleura.

Treatment.—If we disregard the treatment of hepatitis and the dysentery that so often accompanies abscess of the liver, once that the disease is diagnosed there is but one treatment, viz., evacuation of the pus, resecting, if necessary, a portion of a rib to facilitate free drainage. The cavity of the abscess should be irrigated at the time with a weak aseptic lotion. Haemorrhage is seldom severe, but in Case No. 1 it was severe enough to cause extreme collapse, from which, however, the patient rallied well. In some cases the wall of the abscess is so thin as to break down under manipulation, in others the abscess is more deeply situated, and in those, after a fine bistoury is passed alongside the aspirator needle (which is left in as a guide while exposing the liver), a sinus forceps is introduced, and the opening into the abscess enlarged by expanding the blades.

In the event of convalescence being retarded, another abscess may be present which can be operated on as in Case 17, or it may be due to some occlusion of the tube preventing free exit to pus, and this of course can be easily remedied. After operation for abscess of the liver the organ has a tendency to contract, and the opening into the liver to move away from the opening in the skin, and on this account it is advisable to make a slightly curved or even cross incision through the integuments.

NOTES ON A CASE OF LIVER ABSCESS, WITH SECONDARY ABSCESS IN THE BRAIN.

By Captain T. B. Unwin.
Royal Army Medical Corps.

Private ———, aged 23, 2nd Royal West Kent Regiment, was admitted to hospital, Diyatalawa, Ceylon, on August 29th, 1903.

History.—He had been suffering from hepatitis, and discharged four days previously from Colombo Hospital; otherwise his medical history sheet was clear.

State on Admission.—The patient was poorly developed and anaemic; his temperature was 101° F. and pulse 86 per minute, the tongue clean, bowels regular and normal. He complained of slight tenderness in the umbilical region, and a sense of heaviness in the right hypochondrium. On percussion, the liver dulness was somewhat increased, reaching about half an inch too high in the nipple line, and half an inch below the costal margin. I placed him on milk diet, custard, and poached eggs. Medi-