thirst and hunger. The opening into the stomach was an oblique one, a few lines long, made from above downwards. The object was to endeavour to form a valve-shaped orifice; for, during feeding in these cases, food is very apt to regurgitate by the side of the introduced tube, and the gastric juice escapes freely. The attempt made to remedy this evil proved futile.

During an operation for gastrostomy, when the peritoneal cavity has been opened, it is somewhat surprising to find how easy it is to be deceived with regard to the part of the stomach seized and drawn forwards. In the instance under notice, it was most certainly thought that the organ was secured and the opening made much nearer the splenic than the pyloric end; but, after death, the orifice of the fistula was found to be nearly equidistant from the two ends. By drawing the stomach partly out through the wound, the question could doubtless be more properly decided; but the prolonged manipulation of the contents of the abdomen is to be avoided, especially when it does not seem to make much material difference where the anterior wall of the stomach is incised.

The operation of gastrostomy may be said to have two objects in view: 1, to diminish the sufferings of the patient; 2, to endeavour to prolong life. Practically, the first is more important. Those affected with malignant disease of the œsophagus, do not, as a rule, suffer materially until the growth is sufficiently advanced to cause difficulty in swallowing food. Doubtless the passage of the more solid particles of nourishment down the gullet induces more or less irritation, and a consequent increase in the rate of growth and the size of the neoplasm. Laryngeal irritation, followed by ulceration of the trachea, supervenes, and septic pneumonia generally terminates existence. By the performance of this operation early in the disease, the patient is in a condition in which operative interference is more readily borne; the food being introduced directly into the stomach, the irritation and the rate of the growth are lessened, and the symptoms generally are less severe. It is upon these facts that the utility of the operation exists. With regard to its prolongation of life, statistics do not offer much encouragement. In the *Archives Générales de Médecine*, for November, 1883, M. Blum has collected and tabulated 106 cases in which the operation was undertaken for malignant disease of the œsophagus; of these, 50 lived for more than one week. In 13 instances the duration of life was as follows: 3 patients lived for three months; 4 for four months; 3 for six months; 1 for seven months; 2 for eight months. The remaining 37 cases proved fatal between the beginning of the second and the end of the eleventh weeks.

Probably, with the growth of knowledge and increased experience, the results of this operation in cancer will soon be of a much more favourable character. Blum's tables of the last few years afford sufficient evidence on this point; and eventually it may be the recognised practice to advise the formation of a gastric fistula much earlier in the disease than is now the custom with the majority of surgeons.

THE CAUSATION OF TROPICAL HEPATITIS: WITH NOTES OF FOUR CASES OF ABSCESS OF THE LIVER.

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THE commonness of liver-affections amongst British soldiers serving in India may be attributed to over-stimulation by food and drink, aided by the effects of climate; the latter including sudden changes of temperature, malaria, and excessive long continued heat. They are much less frequent amongst natives, presumably in consequence of the light unstimulating nature of their diet, and because in them, probably from acclimatisation, intense heat produces less visceral congestion.

That heat, chills, and malaria are not, however, the sole factors in the production of this class of diseases, may be inferred from a comparison with the case of other residents in India of a different European nationality.

Dr. Jules Rochaud (Art. "Climate," in the *Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques*) has recently stated that inflammation of the liver is scarcely known in the Indian possessions of the French; and other observers (Friedel, for example, in his work on *China*) have made similar statements on the comparative immunity from liver-disease enjoyed by non-English residents.

During the hottest months of the year, the young unseasoned soldier lives on a liberal ration: far more liberal, in many cases, than that to which he was accustomed in the days before his enlistment in his

native land, and he drinks freely of the strong heady beer of Indian manufacture.

Languor and the fierce heat of summer prevent him from indulging in out-door exercise, except to a very limited extent; the result being that the ingestion of a large quantity of meat and drink tends to plethora, disorder of the digestive organs, and faulty assimilation. Thus, increased labour is thrown on the liver, already congested from climate, and working at full pressure in eliminating waste products, and in compensating for the diminished excretion of carbonic acid through the lungs, the consequences of breathing a less oxygenated atmosphere, of slower respiration, and of lessened vital capacity.

Confined in the close heated atmosphere of barrack-rooms nearly the whole day, mentally and bodily inactive, eating and drinking more than he can assimilate, or than is needed for nutrition, the sum total of the conditions under which he passes his existence in the plains, in the hot weather, resemble in many points the process which the Strasburg geese undergo, when their livers are prepared by disease for *pâtés de foie gras*.

It is not argued that animal food is unnecessary at this season, but that it should be consumed more sparingly than in the cold weather. There are many vegetable foods in India which contain as much nitrogenous principles as lean meat, such as dalls, beans, peas, wheat, etc.; and it would be advisable to take the nitrogenous portion of our food chiefly from these, because they are less stimulating, and can be assimilated with less excitement to the economy. If food be intended as a balance between work and waste, the amount and nature of the soldier's ration call for modification in the period of the greatest heat, as compared with that which is necessary in the season of the opposite extreme. The amount should be enough to balance the work done, and calculated on the knowledge that the process of digestion and assimilation is slower in the hot weather, because of the lethargy of the vital functions; and as for the kinds of food, they should be such as would most readily fit in with the conditions entailed by tropical life.

Nutrition would not be likely to suffer by the change; habit, however, in most things becomes a second nature; the soldier is very tenacious of his rights, and very probably would be slow to recognise the soundness of the principle involved. Accepting, then, that hepatitis is caused by a chill in a person whose liver has been congested by residence in a hot climate, aided by intemperance, irritating ingesta, and exposure to malaria, the most hopeful measures of reducing its mortality appear to be such as would tend to counteract these injurious influences.

If the British troops, wholly or in good part, were withdrawn every year to the hills at the end of March, and sent back to the plains in the middle of October, it is fair to assume that hepatitis, and the other diseases to which they are incident by reason of their residence in an unnatural climate, would disappear in time; but in this, as in many other cases, it is easier to point out than to apply the remedy. The question of military expediency arises, and the measure would be pretty certain to meet with disapproval, because of the expense it would entail.

The following are notes on four cases of suppurative inflammation of the liver which occurred amongst the British troops in garrison at Umballa during the year 1883. Of these, three cannot be attributed to dysentery, to pyæmic origin, or to mechanical injury. One of them proved fatal, but no traces could be found in the intestines of cicatrices or of recent ulceration. In the remaining case, pyæmic deposits were found in the liver, and ulceration of the ascending colon close to the cæcum coexisted. With this exception, they were all probably the result of climate, aggravated by injudicious eating and drinking. Two of the four cases proved fatal; the remaining two recovered, one by spontaneous evacuation, the other by surgical interference.

CASE I.—The first of these (Private J. T., Leinster Regiment, aged 40, service 21 years and 1 month, Indian service 3 years and 11 months), was multiple and secondarily pyæmic, resulting from the absorption of septic matter from an ulcerated colon. Diagnosis during life was beset with many difficulties. There were undoubted symptoms of hepatitis and bulging below the costal margins, with great pain extending below the umbilicus, the most prominent part being situated between the mammary and axillary lines. A free incision was made into this swelling, a large quantity of pus was evacuated, and two lower openings were made later on, so as to allow free exit of discharge. It was believed during life that these openings led directly into a large liver-abscess; but, on the *post mortem* examination being made, they were found to pass into an artificial cavity formed by the right lobe of the liver, the colon, and the walls of the abdomen; all these, with the adjacent structures, being matted together. The ascending colon presented a ragged opening about two inches from the cæcum, opposite to and corresponding with the gangrenous infiltration of the abdominal

walls. The disease thus was most likely typhlitis, or inflammation of the colon, in the first instance, leading to ulceration of the coats, rupture, and perforation. This perforation took place into the surrounding cellular tissue, setting up inflammation in this structure (perityphlitis), terminating in the formation of an abscess, which burst between the liver and the colon on the one hand, and the abdominal walls on the other. About ten days before death, gangrene set in, the discharge ceased, the wounds became dry and glazed, covered with ashy-grey sloughs, and the patient rapidly succumbed to exhaustion on the forty-third day of the disease. *Post mortem*, the liver was found to be firmly adherent to all the surrounding structures; it weighed 5 pounds 7 ounces; it was uniformly enlarged and very hard to the touch. A small superficial abscess, about the size of a walnut, was situated anteriorly between the right and left lobes. On section, numerous pyæmic deposits were found, the cut surfaces appearing pale and nutmeg-like. The intestinal lesion has been already described.

CASE II.—Gunner T. S., R.H.A., aged 28, service 9 years and 8 months, Indian service 2 years and 9 months, was admitted to hospital on September 9th, 1883, with diarrhœa. On September 12th, hepatic symptoms were first noticed, and the diagnosis was accordingly changed to hepatitis. The patient had a sallow cachectic look, with a semi-jaundiced skin. The early symptoms were those of congestion: pain and tenderness in the right hypochondrium, rigors, sweats, heightened temperature, cough, nausea, fixation of the right side, and increased area of hepatic dulness. These symptoms continued much the same, except that the evening temperature and dyspnoea increased, until the night of October 11th, when the abscess burst into the right lung, and a copious expectoration of shreds of liver-tissue mixed with pus took place. Pneumonic complications set in, and the disease ran a very rapid course, marked by great prostration, profuse sweats, hectic, high temperature, and intense thirst, death taking place on October 19th. The *post mortem* appearances were as follows. The liver was much enlarged, weighing 84 ounces. It was adherent to the diaphragm and colon; its upper surface was also adherent to the lower portion of the lung, the diaphragm at this part being ulcerated through. Thirty-five ounces of pus were removed from the pleural cavity. The right lung weighed 44 ounces; its upper third was healthy, but the lower two-thirds were softened and infiltrated with pus, breaking down on the slightest pressure. The lower portion of the lung was adherent to the upper surface of the liver, forming an intervening cavity filled with pus and disintegrated liver-tissue. The other abdominal organs were healthy.

CASE III.—Private C. S., 9th Lancers, aged 29, service 10 years, Indian service 8 years, was admitted on December 14th, 1882, for acute hepatitis, in a state akin to collapse. His habits were said to be temperate. His appearance was anæmic; his tongue coated; pulse quickened and intermittent. He complained of nausea, cough, chills, impaired appetite, failing health, pain in the right side, inability to lie at full length, and hepatic uneasiness. Percussion showed that the upper boundary of the liver was abnormally high, anteriorly and posteriorly, but there was no distinct bulging or enlargement of the side. Any attempt to lie in the recumbent position brought on an immediate and most distressing feeling of suffocative dyspnoea. All these inflammatory symptoms gradually subsided, but he still complained of some pain posteriorly below the scapula, and of shortness of breath on exertion. He was discharged from hospital on January 19th, 1883, but had to be re-admitted a month later, owing to his condition having become worse. The same night an abscess of the liver burst through the right lung, the discharge (a bowlful) consisting of reddish-brown pus, mixed with salivary and bronchial secretion. The temperature rose to 102.6°, but fell to 100° the following morning, and to normal the third day, since which, up to the date of his leaving the hospital three weeks later, the thermometer did not register above 99°. No signs of serious lung-mischief developed themselves, and the case is interesting as illustrating how insidiously the liver may suppurate, as well as how resolution may take place after rupture, with little or no constitutional disturbance. Under a course of tonics and careful dieting he gradually got better, and was invalided to England on March 16th, 1883. From a letter subsequently received from him after his arrival at Netley, it appeared that he was greatly improved by the voyage home, and was rapidly regaining his strength under the influence of change of climate and sea-air.

CASE IV.—Farrier-Sergeant J. P., 9th Lancers, aged 33, service 13 years 7 months, in India 8 years 8 months, was admitted on October 20th, 1883. He acknowledged being a free liver. He served in the late Afghan war, and stated that he suffered from irregularity of the bowels ever since. He had never had dysentery. He went to

Simla last September on a month's furlough, and then, for the first time, began to complain of pain in the right side. After being under treatment a short time, he was sent to Umballa, and admitted to the station hospital. On admission, he complained of pain in the hepatic region, rigors, nausea, and vomiting; in general appearance he was prematurely aged; his face was anæmic and slightly jaundiced. There was uniform enlargement of the liver, with well marked bulging in front, below the costal cartilages; tenderness on pressure also existed, and percussion gave rise to giddiness and faintness. An abscess was diagnosed, and was aspirated, on October 26th, with Dieulafoy's instrument, 41 ounces of thick, sanious, bile-stained pus being evacuated with temporary relief to his sufferings. Five days afterwards, his temperature began to rise again, and the swelling re-appeared; persistent vomiting also came on, probably from pressure, and his general condition indicated great exhaustion. It was then decided to make a free opening under Listerian precautions. Accordingly, under chloroform, an incision about one inch and a half long was made into the most prominent part of the tumour, just below the ribs, in front, beside the epigastrium; and the dissection was carefully carried through the abdominal wall. When the knife divided the capsule and a thin layer of liver-tissue, a large quantity of pus mixed with bile gushed forth immediately. The cavity of the abscess was then washed out with a tepid carbolic solution of 1 in 80, a large drainage-tube introduced, and several layers of carbolised dressing placed over all; the greatest care being taken to prevent the entrance of atmospheric air by fixing strips of adhesive plaster along the borders of the dressing. The whole operation was conducted under strict Listerian precautions, with the spray-apparatus in full working order. Treatment was subsequently directed to supporting the patient's strength, and obviating decomposition in the abscess-cavity and extension of the mischief. His condition steadily improved, the edges of the wound remained healthy, no signs of gangrene or sloughing appeared, temperature fell, vomiting ceased, appetite returned, and the cavity is now completely healed up and cicatrised over. He feels quite well, walks about daily, and is rapidly recovering his strength.

The abscess was single, and must have been of the size of a cocoon, or larger; it was in every way suitable for operation, especially as adhesion was assumed to have taken place, so that there was no danger of extravasation into the peritoneum. Further recourse to aspiration would have been to wait upon death; it might have put off the fatal termination for a few days, but the ultimate issue would never have been in doubt. All the circumstances of the case were very instructive, and afford strong evidence of the benefits to be derived from, and the greater prospects of recovery under, antiseptic treatment.

ON SOME CLINICAL AND PATHOLOGICAL POINTS IN CEREBELLAR DISEASE.¹

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THE points to which I shall call your attention are mainly pathological. At the same time, I venture to hope that the clinical details, to which I must allude, may not be without their value. The affections of the cerebellum with which I shall deal are (1) simple cysts, and (2) abscesses.

1. C. S., aged 23, was admitted into St. Thomas's Hospital, under the care of Dr. Bristowe, on April 10th, 1883. She had been married three years, but had had no child and no miscarriage, and her catamenia had continued regular but scanty. She had been subject to much ill-treatment ever since her marriage, and had been much bruised about the head.

Her present illness came on nine months before admission, with pains all over her head, but mainly in the occipital region, which she likened to having her head taken to pieces, and sickness, which occurred independent of meals. The headache and sickness had continued ever since, and had been associated at times with noises in the ears. About three weeks before admission, the right hand and arm suddenly became useless, and a feeling of pins and needles was felt in the hand and forearm. These symptoms only lasted for two or three hours, but they recurred many times since, and, accompanying

¹ Read before the South London District of the Metropolitan Counties Branch