

Clinical Notes :

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF AMOEBIC ABSCESS OF THE LIVER AND BRAIN WITH NO PREVIOUS HISTORY OF DYSENTERY.

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THE chief points of interest in the following case are the absence of a history of any previous illness of a dysenteric nature and the difficulty of ascertaining the occasion of the primary infection. One can only surmise that the infection occurred from contact with a carrier. In the *Presse Médicale* of August 6th MM. A. Fuchs and A. Bouchet quote four similar cases of amoebic liver abscess, in none of which was there any history of a previous attack of dysentery or even of diarrhoea. These cases all occurred in one limited area and were considered by the authors of the article to be due to infection from a carrier.

Corporal W. B., aged 35, was admitted on July 11th, 1917, from France, diagnosed "gallstones," with notes to the effect that he had had, since admission to hospital in France, an evening rise of temperature to 103° F. with frequent rigors, jaundice, and pain in the region of the gall-bladder. The following information was gathered as regards the patient's history.

He had arrived in England towards the end of February, 1917, having during the voyage from New Zealand spent a day ashore at Albany and several days at Cape Town. He had never previously been out of New Zealand. While in camp in England, in April, he had an attack of what he thought was influenza, with pain in his right side, "just under the ribs," and in his right shoulder. He thought he had one or two shivering attacks at this time. He recovered and was sent to France, apparently well, on May 27th. From the time he reached France to the date he was admitted to hospital, June 15th, he had several attacks of shivering at night, and these rigors continued with greater frequency after he was admitted to hospital. He stated that he had never had an attack of dysentery, had never suffered with diarrhoea, and had never noticed anything abnormal with his motions.

In this hospital the patient had a nightly rise of temperature to 102°-103°, with rigors at intervals of two or three days. He complained of pain on the right side on taking a deep breath and of a constant sense of fullness and discomfort on the right side. He was sallow but not definitely jaundiced. On palpation there was marked tenderness in the region of the gall-bladder, and there was also tenderness in the right infra-axillary region. There was slight bulging of the lower ribs on the right side, and in this region there was some oedema of the skin, noted by the difficulty in pinching up the skin as compared with the same area on the opposite side. There was an extension upwards of the liver dullness on the right side, in front, in the axilla, and behind. Breath sounds at the right base were faint, there was diminished vocal resonance, and tactile fremitus was absent. A few crepitations could be heard at both bases. Urine normal. Faeces negative to bacteriological examination. Blood, three days' culture, negative. Blood count showed a leucocytosis of 18,000. No eosinophilia. X ray examination: Diaphragm was higher on right side but moved freely with respiration; liver shadow showed indefinite increase of density on right side. The condition was diagnosed as one of hepatic abscess of uncertain nature, and the patient was operated upon.

The abdomen was opened, the liver found to be enlarged, with some weak recent adhesions over the upper part of the right lobe, and in this region the liver felt softer and less resistant than elsewhere. A needle was then inserted between the ninth and tenth ribs in the mid-axillary line towards the portion of the liver where the adhesions were felt, the hand guiding from inside the abdomen. Thick pus was drawn off almost immediately on the needle penetrating the liver. The abdominal incision was then sewn up, and an incision made over the ninth rib in the axillary line. Three inches of rib were removed, the two layers of pleura sewn together over an area of about 2 x 1 inches, and the incision carried through the layers in the enclosed area, through the diaphragm, and through about 3/4 inch of liver substance into the abscess. The abscess filled the greater part of the right lobe, and was about 4 inches in depth, 5 inches from side to side, and 4 inches from above downwards. The contents of the abscess consisted of thick pus, partly brownish red, but mostly light yellow in colour. There were no cysts in, or lining membrane to, the cavity. The pus was evacuated and a large tube inserted for drainage.

Pus obtained at the time of operation was examined bacteriologically with a negative result. Cultures were sterile. A specimen of pus from the discharge three days later was found to contain motile *Entamoeba histolytica*. The entamoeba or cysts have been found in every subsequent examination. There has been no bacterial growth from the pus.

The operation gave immediate relief from the pain and discomfort previously present, but apart from the local improvement and the disappearance of the rigors there has not been a marked change in the patient's condition. The discharge became scanty and the cavity shrank to about the size of a golf ball. The liver dullness became less than normal.

Emetine hydrochloride was given hypodermically, 1 gr. per diem, for 14 days with no apparent influence either on the temperature or on the presence of the entamoebæ.

We have to thank Lieutenant-Colonel D. S. Wylie, C.M.G., F.R.C.S., O.C. No. 1 N.Z. General Hospital, for permission to publish this case.

Addendum.—The patient died on Sept. 22nd. For a fortnight prior to his death he had a temperature of 101° with few remissions and had no rigors. He had steadily become weaker and very dull mentally till during the last few days he became almost semi-comatose, with some incontinence of urine and faeces. Otherwise there were no special symptoms observed.

Post-mortem.—The abscess in the liver had shrunk markedly and was no larger than a golf ball, and around the abscess were some scarring and macroscopic degenerative changes. The condition was obviously rapidly recovering. There were adhesions of liver to peritoneum around the sinus and adhesions of pleura at site of suture. There was no abnormality of intestines, except some slight congestion of the mucous membrane of the caecum. Some hypostatic pneumonic condition was seen at base of both lungs, especially the right. In the brain an abscess of size of pigeon's egg was present in lower inner portion of right frontal lobe extending into right ventricle and containing thin yellow pus. There was an area of softening in the brain around and localised basal meningitis in that area. The pus contained motile *Entamoeba histolytica*. Death was obviously due to the secondary abscess in the brain.

A CASE ILLUSTRATING AN EXTREME MODIFICATION OF LOCAL TETANUS.

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CASES such as the present frequently pass unrecognised as local tetanus, no doubt partly owing to the fact that the patient may not complain of the condition, assuming that any symptoms he may experience are merely the result of the presence of the wound. Even when the recognised prophylactic treatment has been carried out, such conditions are not altogether rare; they probably represent tetanus in almost its extreme modification. These cases should be watched for and reported as local tetanus, as one is justified in assuming that if the course of prophylactic injections of antitetanic serum had been less complete, more severe tetanus would have resulted.

S. E. was wounded by shrapnel through right thigh on Nov. 12th, 1917. Later in same day, according to field medical card, wounds excised; 750 units of antitetanic (A.T.) serum. On Nov. 25th wounds were stitched up at base hospital. Three further prophylactic injections of A.T. serum (500 units each) were given at weekly intervals. A short time after last injection (on Dec. 3rd) the patient began to experience occasional "twitches" in injured thigh; for some days, he stated afterwards, limb had felt somewhat stiff.

On Dec. 7th he was evacuated from France to England. The condition, however, passed unrecognised, and no doubt, owing to inability to flex leg at knee, the case was regarded as one of possible injury to sciatic nerve. To determine such a condition he came under our observation on Jan. 3rd, 1918.

The history then obtained, in addition to above, was as follows: From time to time the leg would give spontaneous "jerks"; these were very infrequent (four or five in day). Occasionally such a twitch if anybody came near him. Beyond this, only sleeplessness and occasional pain in region of wound; no restlessness, hesitancy of micturition, dysphagia, &c.

Physical signs were as follows:—

Anterior wound in mid-line of thigh, 5 inches below Poupart's ligament; practically healed. Posterior wound just above right gluteal fold, about 1½ inches from natal cleft; had healed eight days previously. Below anterior wound there was well-marked rigidity of quadriceps extensor muscle, chiefly involving rectus femoris, and extending downwards for about 5 inches; above wound rigidity extended upwards for about 1½ inches. On account of this rigidity patient was quite unable to flex leg at knee. In posterior part of thigh a moderate-sized mass of "wandering" oedema was present, which on palpation somewhat obscured condition of hamstring muscles. All other muscles, however, appeared moderately flaccid, although patient experienced considerable difficulty in moving foot. Knee-jerk not elicited; patellar clonus absent; tendo Achillis jerk brisk, equal with that on left side, no ankle clonus. Plantar reflexes flexor. No evidence of injury to sciatic nerve; all sensation normal; all muscles normal to electrical stimulation.

Treatment and progress continued as follows:—

Jan. 3rd: 1500 units A.T. serum intramuscularly; 5th: 500 units subcutaneously. 7th: Able to move foot freely and flex knee to very slight extent. All local spasms had ceased; leg caused no pain. Muscular rigidity as before. 8th: 500 units A.T. serum subcutaneously. 13th: He complained of sleeplessness and occasional slight twitching at knee, not brought on by any particular action.

Jan. 14th: 500 units A.T. serum subcutaneously, and repeated daily up to 17th. 20th: Rigidity of quadriceps considerably less; spasms had again disappeared. Patient able slightly to flex leg at knee. 26th: Quadriceps muscle appeared quite supple. He was beginning to flex leg well; no voluntary movement possible as regards extension at knee. This was not due to injury of anterior crural nerve, as all muscles supplied by this nerve re-ponded normally to faradism and to condenser discharges. The "wandering" edema had practically disappeared.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF EPIDEMIOLOGY AND STATE MEDICINE.

Industrial Tuberculosis.

A MEETING of this section was held on May 24th, Dr. G. S. BUCHANAN, the President, being in the chair, when Dr. E. L. COLLIS Director of Welfare and Health, Ministry of Munitions, opened a discussion on the Incidence of Industrial Tuberculosis.

Dr. COLLIS said that, limiting the subject to pulmonary tuberculosis and to the occurrence of the disease among those aged 15 years and upwards, the conditions which were generally agreed to have an influence in promoting the development of tuberculosis, and which were more or less intimately associated with industrial environment, were:—

1. *Overcrowding*—the aggregation in such close proximity as might allow of spray infection due to coughing, of persons among whom tuberculosis was not more than normally prevalent.
2. *Presence of an unusual number of cases* in an otherwise normal environment, often associated with, and following upon, overcrowding.
3. *Alcoholism*, due to "industrial drinking," either established by the custom of the trade or conducted to by conditions of heat or dust.
4. *Illness*, by which was meant lowered general resistance brought about through fatigue, the result of long hours, imperfect ventilation, bad feeding, lack of rest and healthy recreation.
5. *Inhalation of injurious dust*, such as the dust of silica; he did not consider the inhalation of silica dust the main predisposing cause, in industry, of tuberculosis.

A table was then shown giving the comparative mortality for some important causes of death for four typical groups of males. The first group, that of occupied and retired males, was taken as the standard. The second (shoemaker) was chosen as an example of an industry wherein, except for the possibility of infection, no adverse influences were more prevalent than in other industries in which tuberculosis was less prevalent. In this group figures showed that the mortality from tuberculosis was the only one calling for serious comment. The third group included publicans and inn-servants, and represented the peculiar influence of alcohol, which lowered the general resistance of the body and caused an excessive mortality from every cause. In this group the mortality from phthisis was more marked than in Group 2. The fourth group included tin-miners and showed the effect of silica dust, which exerted its influence upon the incidence of tuberculosis by damaging the lung tissue. In this group the mortality from phthisis and other lung diseases was in each case over four times that in the standard group. Another table was then shown which gave the incidence of tuberculosis mortality at different age periods. The curve for the shoemaker was so close to that adopted as the standard as to suggest that the predominating influence determining it was the same as that determining the curve for "occupied and retired males." The curves for the publican and the tin-miner differed entirely from that of the standard, suggesting that different determining influences were at work. In investigations into industrial mortality the death-rate per 1000 living was particularly difficult to obtain. This had induced Dr. Collis to use the method of "proportionate mortality" for investigating occupational mortality data, and particularly data due to tuberculosis. This method consisted in examining the causes of death of a sufficient number of persons whose exact occupation was known without considering the number among whom these deaths occurred. If such deaths were classified according to

age-period the percentage of all deaths due to any special disease, such as tuberculosis, at each age-period could be stated. He had carefully compared death-rates for tuberculosis and also for other diseases at certain age-periods for certain groups for which both the mortality per 1000 living and the percentage of all deaths were known, and had shown that when the death-rate per 1000 living exceeded the standard the percentage of all deaths as a rule exceeded the standard. Tuberculosis, after its inception, often led to a change of occupation, and this tended to obscure the issue. For this reason we required information as to the occupation when invalidity commenced. In 1853 Finlaison, actuary of the National Debt, when reporting to the Registrar of Friendly Societies, said that "the real practical difference in the distribution of sickness seemed to turn upon the amount of the expenditure of physical force.....: the quantum of sickness annually falling to the lot of man was in direct proportion to the demands on his muscular power." Fifty years later Watson, whose actuarial investigation of the records of the Manchester Unity, Independent Order of Oddfellows was used as the basis of the National Insurance Act, said that "the proportion of members sick during any year varied with the occupation," and he concluded that "the element of occupation was of greater importance in determining the contribution for a sickness benefit than that of locality." If morbidity were carefully investigated the effect of occupation would be obvious.

Captain MAJOR GREENWOOD, R.A.M.C., said that as the result of statistical investigations he was led to think that industrial reorganisation was the principal factor in the recent increase of mortality from tubercular diseases among women in this country. Speaking of the general question of industrial tuberculosis, he said that the criticism was that those occupations subject to a high tuberculosis-rate were (excluding the silica trades) precisely the industries which made little demands upon physique, and could therefore be pursued by those whose bodily development was below the average, and who consequently were presumably less resistant to the ordinary dangers of infection from which no industrial worker was immune. He thought that certain statistical researches which he summarised provided tolerably distinct evidence that the excessive mortality from tuberculosis in certain occupations not subject to specific risks, such as those involving contact with silicious particles, was not explicable by an appeal to industrial selection.

Dr. BENJAMIN MOORE, referring to Dr. Collis's paper, said that alcohol predisposed to disease in all forms, but it must also be remembered that phthisis predisposed to alcoholism. Barmen and inn-servants were casual occupations, and often badly paid, and could easily be taken up by those beginning to ail from commencing illness. The specific influence of silica was due to the properties mentioned in his paper. It was heavy, and had to be coughed up against gravity, or moved upwards by the cilia. Owing to its sharpness the particles stuck in the lung. Particles of iron did not cut; the incidence of phthisis among ironstone miners was therefore less than among silica workers. In the past 30 years the number of deaths from phthisis among printers was halved compared to deaths from other diseases. Death was not due to the occupation but to surroundings and the conditions under which they did their work. With the silica worker we must remove the predisposing cause (the silica); with the printer we must remove the direct cause—we must remove the infected worker from the shop. Dr. Moore then gave a classification of all the occupations dealt with in the reports of the Registrar-General, arranging these in the descending order of magnitude of the severity of the incidence of pulmonary tuberculosis. This list illustrated the great variation in the incidence of phthisis arising from occupation, and showed the paramount importance of environmental conditions. Thus, the severity varied over tenfold, from 3.73 times the normal in tin-mines to only 0.37 of the normal amongst clergymen; there were many manual trades with nearly double the normal incidence, and others with an incidence little more than half the normal. Some of the latter were dusty occupations, indicating that certain dusts were not harmful. These variations were discussed and shown to be due to several operating causes, such as the injurious nature for the lungs of substances handled, casual conditions of work and payment, varying degree of individual infection