ON A PECULIAR SYMPTOM
OCCURRING IN SOME CASES
OF
ENLARGED LIVER.

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PREVIOUS to the year 1832, one or two cases of abdominal disease had occurred to me, in which a remarkable symptom was observed in the chest, which differed from any described by Laennec and other writers on auscultation. It was a loud sound, (as heard through the stethoscope,) between a crepitous rattle and a bleating, audible to the patient and even to the bystander, and accompanied by a vibration of the parietes of the thorax, communicated to the hand applied to the part. I was unable to ascertain the cause of the symptom, until the following case occurred to me, while attending the Hospital of H. M.'s 46th Regiment, at Hyderabad, during the illness of my friend Dr. Gualter. As the case has important bearings on several questions relative to disease of the liver, on which the opinions of the profession are at variance, it may be proper

to enter somewhat more into detail than would be necessary for the illustration of the particular object of this paper.

The following details are extracted from the Hospital Journal.

CASE.

L. M'Donald, æt. 29, was attacked with violent symptoms of hepatitis during the latter part of 1832, for which he was twice bled to the extent of 30 and 40 ounces, and had 90 leeches applied, during the first two days. He took 10 grains of calomel, with the same quantity of Dover's powder, at bed time; and three grains of the former medicine during the day. These measures and a blister relieved the symptoms, and the gums became tender; but some evening excitement continued. Pain in the epigastrium now came on, and was relieved by bleeding to 16 ounces, the application of 20 leeches, and fomentations. On the morning of the 20th December, he complained only of weakness; but in the course of that day, he was seized with severe pain in the left lobe of the liver, on pressure and full inspiration. The pulse was 85 and weak. Sixteen leeches and a blister relieved him, but next day his legs were œdematous and medicine was omitted. He had now night fever, (never the same on any two nights,) cold sweating, feeble but not quick pulse; and the stools were feculent, liquid, passed easily, and most frequent at night. The report of the 1st January notices external tumefaction, occupying the right

hypochondrium and extending towards the umbilicus and into the left side. The stools were white, and mixed with a little mucus: P. 94; and he slept pretty well. On the 11th, the swelling is reported as on the increase, and that evening the patient passed, with relief, what he compared to boiled sago mixed with blood. The evacuations were of a deep yellow colour; next day they were white and mixed with mucus, the swelling had somewhat diminished, and there was much dejection and great complaint of debility. During the rest of January he continued to pass frequent stools, sometimes containing bloody mucus and pus of a putrid smell, at others thin, light coloured, and feculent; and suffered occasionally from acute pain in the tumefaction, and from tenesmus and pain in the hypogastrium. The œdema and emaciation increased, the pulse got more feeble, and there was a greater appearance of sinking, although the countenance was occasionally flushed. Sleep was procured, and the purging checked, by opiates.

On the 1st February the pulse was 78, irregular and sharp, and the skin was hot. On the 3d, the pulse was firmer, and he complained of acute pain of the right shoulder and scapula, and in the tumour. The bowels were more regular. He was immediately relieved by the application of 12 leeches and a blister.

On the 8th he appeared much better, notwithstanding the pain in the shoulder being again severe.

On the 14th I took charge of the patient, and shall give the remainder of the case as recorded in my notes at the time. The pain of the side extended to the shoulder, but was principally felt round the tumour, a little above and to the right of the umbilicus, where the parts were harder than in the tumefaction itself, in which some elasticity was perceptible. It is prevented coming forward by the great thickness of the rectus muscle. He could only lie on the right side, and the pain of the shoulder was distressing on turning in bed. The breathing was a little quickened, and the sound or percussion, below the 5th rib on the right side, was quite dull. The patient asked for blisters, from finding them give him much relief. I omitted small doses of calomel he had been taking, and gave him anodynes at bed time, which procured him good rest.

20th February.—Fluctuation is now evident, and the skin over the tumefaction is œdematous; it has been exceedingly tender for some days, especially at the right edge of the rectus; and pressure causes pain to shoot towards the hypochondrium, and to the lumbar region, where there is pain separate yet connected with this. He cannot extend the trunk, and is confined to lying on the right side, with the thighs and body bent forward. Sweats at night, but his countenance is better, from sleep obtained by the draughts. Skin sallow. No purging. Tongue white, not furrowed, or highly furred. Some fluid in abdomen. The lower part of the chest is con-

siderably distended, and he says, that he formerly had great swelling of the left side, in the region of the spleen. Left hand is much swollen. Poultices relieve the tightness.

From this time till the 9th of March he became more and more distressed, although his eye was clear, and he did not sink. Bowels are occasionally loose, and he passes a white fluid, which, on the slightest motion of the vessel, separates into flakes; it has every appearance of pus. The face is puffy, and he can only rest lying on the right side or sitting up in bed. The tumour shows a tendency to point at its upper part, but makes no progress.

March 10th.—Is suddenly seized with acute pain over a small space of the anterior part of the left side of the chest, between the sixth and seventh ribs. There is a very distinct, sharp vibration communicated to the hand applied to the spot, with an emphysematous feel between the ribs*, but attended with a loud crepitous bleating, distinctly heard without the stethoscope. Some mucous rattle in the throat, and he expectorates a little thick adhesive mucus. The respiration is hurried, he is exceedingly anxious, and is forced to sit up in bed. Pulse very quick and weak. Apex of the heart seems to be thrust up a little higher than usual.

17th.—He was a good deal relieved by fomenta-

* The emphysematous feel was also to be perceived, in a slight degree, over the tumour, but not in the intermediate portion of the integuments.

tions, but his mind wandered a little on the 14th; the mucus in the bronchi increased, and he seemed about to die. I was inclined to open the tumour, but the wandering prevented it; besides this, we had no certainty of the abscess having adhered to the parietes. Pain sometimes shoots across into the hypochondrium, at other times into the right side of the chest. Respiration is distressed. The right lung is only traversed above the third rib, the rest of the right side of the chest sounds dull, and there is no respiratory murmur; respiration in the left lung puerile, and the peculiar crepitous bleating between the sixth and seventh ribs, above described, is rather less loud. There is a dark circle round the eyes, and a slight emphysematous feel over the abdominal tumour. Stools are slimy, brownish yellow, tinged with blood and mixed with pus. Much dejected, and will use no medicine.

As the tumour had made no progress I still considered it dangerous to open it, notwithstanding the edges felt hard, as if adherent; and proposed to cut down over the swelling, so as to lessen the thickness of the parts, and assist the progress of the matter to the surface, as recommended by Dr. Graves. This was accordingly done by Dr. Gualter, who cautiously cut obliquely across the swelling and the fibres of the rectus, down to the posterior fascia of that muscle, which, as well as the skin, was in a healthy state. The swelling protruded a little at each inspiration, and led me to think that there were adhesions. The

tension being removed appeared to give him some ease, but he died on the 26th, rather suddenly.

Dissection.—Dr. Gualter having kindly permitted me to examine the body, a mark was made on the place where the peculiar symptom which it is the object of this paper to point out, was observed. On opening the body, it was found that no adhesion had taken place between the abscess and the parietes of the abdomen. The liver was much enlarged, its substance rather soft, and the pale structure somewhat increased. The stomach was distended with air, and its pyloric extremity was pushed down towards the umbilicus, as was the colon, to which there were no adhesions, but its coats were slightly vascular, where they were in contact with the diseased viscus. The liver strongly adhered to the diaphragm, which it had pushed some way up, and had caused a partial absorption of its substance, as, on separating the lung, which also adhered, a gush of matter into the cavity of the pleura was caused by tearing its attenuated fibres. The right cavity of the pleura, as high as the third rib, was full of reddish serum, in which flakes of coagulable lymph floated, and recent and very tender adhesions existed between the lung and pleura costalis, and insulated in large irregular cells, quantities of the red serum. The lung, though compressed, was healthy, and the adhesions were easily separated from the healthy membrane, as if they had been deposited from the fluid. The adhesions to the diaphragm were dense. There were four ounces of fluid, containing a few flakes, in

the pericardium; and towards the right side it seemed to have partaken of the diseased actions. There was a slight recent adhesion of the thin margin of the left lung to the sixth and seventh ribs, at the spot where the sound was heard during life: the lung was well traversed and healthy, with the exception of an enlargement of some of the cells where it adhered. It was seen that the edge of the lung had been pushed against the side by the diaphragm, forced upwards by the enlarged liver. The heart and great vessels were healthy.

There were several large abscesses in the liver, of which one, in the convex surface of the right lobe, had nearly opened into the chest, and, as well as another in the middle of the left lobe, was independent of the one that pointed. The gall bladder was distended, and contained some bile mixed with much pus, which was found to have regurgitated along the cystic duct, and to have come from the abscess in the left lobe, by a branch of the left division of the hepatic duct. The small duct was carefully traced till it was seen to open into the abscess, the parietes of which were very irregular, from the unequal absorption of the hepatic substance. The abscess that appeared externally was situated in the anterior and superior part of the right lobe; and it was observed that the incision, which had in one point penetrated the posterior portion of the sheath of the rectus, had left a slight mark on the peritoneum covering the abscess, which, notwithstanding this, was smooth and healthy, and had been in no way excited by the

operation. The vessels, &c., of the capsule of Glisson were healthy. There was a very little water in the abdomen. The small intestines below the duodenum contained dirty brown matter; and the colon was studded with ulcers, especially near the rectum. The spleen, pancreas, kidneys, and bladder, were healthy.

This dissection, which was very carefully conducted by Dr. Gualter and myself, left no doubt that the very peculiar symptom of a loud sound, partaking of the character of a bleating and of an ordinary respiratory murmur, but audible at some distance by the bystander, and accompanied with a strong vibration of the part of the chest from which it proceeded, was caused by the thin edge of the lung being compressed against the costal pleura by the enlarged liver.

The same symptom occurs from simple enlargement of the liver, and a knowledge of it may be of use, both in relieving the mind of the sufferer, and in directing the practice in certain obscure cases.

In 1835, I was requested to visit a surgeon of the Madras army, who had for some time laboured under chronic hepatitis, attended with some enlargement of the viscus and febrile paroxysms. He informed me, that notwithstanding the judicious treatment pursued by his medical friends, he believed that an abscess had burst into his chest; and said that he heard a sound, and experienced a vibration, in the posterior and inferior part of the right side, which prevented his resting in the recumbent posture. I applied my hand to the part, and at once

distinguished the peculiar thrilling of the ribs I had observed so anxiously in M'Donald's case above related ; and perceived by percussion and the stethoscope, that the lung was freely traversed, the respiratory murmur being louder than in ordinary respiration, and of the same character as in the former case. It could also be distinguished at some little distance by the naked ear, more especially when the patient lay on the back, a little turned to the right side. There was no ægophonism. Having explained to the patient M'Donald's case, I was able, by placing him in a sitting posture, to remove the symptom, and to let the lung descend a little further into the chest, and, by pressing the liver forcibly upwards, again to produce it, and so completely was the patient's mind relieved, that he amused himself by producing and removing, by various changes of posture, what he had taken for an intimation of approaching death *. His future history corresponded with the opinion I gave, and his recovery was progressive. In addition to the usual remedies, I recommended the patient to direct the treatment, as far as could conveniently be done, to check any inflammation that might lead to the formation of permanent adhesions ; to which, in his case, there was an evident tendency, and to which various unpleasant symptoms frequently left

* In a case that occurred before I was aware of the nature of the symptom, the pressure seemed to be caused by a collection of hardened fæces in the right colon, which it was impossible to prevent occasionally taking place in an elderly man labouring under severe paraplegia.

by hepatitis, are usually, and I believe correctly, ascribed.

When enlargement of the liver takes place either from congestion or chronic inflammation of the right lobe, or abscess of its convex surface, the tendency to encroach on the cavity of the chest is so great, that I have found the use of percussion and the stethoscope lead to the detection of enlargement of the viscus, more frequently even than examination below the margin of the ribs. Hence the frequency with which abscesses cause adhesion of the diaphragm to the costal pleura, and then make their way through that muscle and the intercostal spaces, to the surface. In such cases, however, the chance of a successful result from operation is extremely small, as, owing to the great thickness of the parts through which the matter has to pass before it can be reached, it has for the most part, extensively wasted the substance of the liver, and by burrowing through its softer parts, produces irregular cavities, across which, bundles of vessels and membrane with portions of hepatic substance, usually pass. In such instances, adhesion has always taken place previous to fluctuation being perceptible, and the operation may therefore be performed without danger, and should on no account be deferred. A case has come to my knowledge, in which the matter burrowed amongst the external muscles, causing extensive sinuses, which could not fail to lessen the patient's chance of recovery.

The operation never fails to give great temporary

relief, by removing the pressure on the lung, which I have known to be pushed above the third rib, and on the evacuation of the matter to descend to the lower edge of the fifth, and resume its functions ; the patient being at the same time enabled to extend his trunk and thighs, which were previously painfully bent forwards. I have, also, met with one person who recovered permanently, from an abscess opened in this situation.

It is in liver abscesses operated on in this position, that the peculiar corroding gangrenous ulceration, described by Mr. C. Hawkins, in the *Medico-Chirurgical Transactions*, Vol. XVIII., Part 1, most frequently takes place ; and from not being aware that this occurs in common abscesses of that organ, even when the cavity itself has been nearly obliterated, that gentleman has considered the cases he has so well described, to have been examples of a disease to which he has given the name of " aqueous encysted tumours." I believe this intractable complication, usually arises, from the parts over the abscess having their vital powers diminished by the disease below, and thus being unable to sustain the irritation caused by the discharge from the abscess, which, in almost all protracted cases, becomes more or less sanious. In one instance, an abscess situated rather deeply in the substance of the right lobe, made its way anteriorly and pointed between the umbilicus and the margin of the ribs. A puncture was made, and reddish pus with thick diseased matter and sloughy membranes, to the extent of fourteen ounces, was discharged. He

sank in a few days. The original abscess situated in the substance of the right lobe, was of moderate size and contained good pus, but communicated with another cavity, partly filled with putrid sanies, formed between the surface of the liver and the two layers of peritoneum, which adhered together, but were broken down and sloughy. The integuments had also sloughed, the gangrene commencing in an old leech bite. These observations strongly enforce the propriety of opening abscesses in the liver appearing externally, as early as possible; although, I regret to say, that the chances of recovery are much smaller than could be inferred from the published records of cases, in which the operation had been performed.

But while satisfied of the propriety of making an early opening, when it can be done with safety, I think that the case above recorded will show, that when an abscess comes forward below the margin of the ribs, an operation should not be performed until the tumour has not only protruded, but decidedly *pointed*; as in such cases (and it is unfortunate that those are the examples in which recovery is most likely to occur) there is too often no adhesion of the covering of the abscess to the parietes of the abdomen; and notwithstanding the opinions of several authors to the contrary, it is impossible to believe that, in such circumstances, the pus would not be effused into the cavity of the abdomen and destroy the patient. During the time M'Donald's case was under treatment, a recruit of the Madras European regiment died of an abscess of the liver, which pro-

truded to a great extent below the margin of the ribs, and in which the matter appeared to be very near the surface. The skin over the part was tense, œdematous, and covered with enlarged and tortuous veins; and it was only after very anxious consideration, and chiefly on account of the otherwise hopeless condition of the patient, that I was deterred from operating; yet on dissection it was found, that no adhesion whatever had taken place. It is true, that there are few cases on record, in which death has occurred from the effusion of the pus of hepatic abscesses into the abdominal cavity, but such examples do occur both in this country and between the tropics, although it seldom happens that they are submitted to the public.

But not only are we unable, by the mere presence of fluctuation, to ascertain that adhesion has taken place, but, it is not always easy to be assured that we can reach the matter; even when it exists in large quantity. In 1823 I examined the body of an officer, who died of hepatic abscess, in whom it had been proposed to make an incision in the epigastrium, to evacuate the matter, but the measure was objected to by an experienced practitioner, who was consulted, and the operation was not performed. On dissection it was found, that the matter could not have been reached, and although I did not see the case during its progress, it was evident, from the appearance of the swelling in the dead body, that the mistake might very readily have been committed. I do not say, that this will happen in the practice of

men accustomed to treat deep-seated abscesses ; but I have heard of cases where the melancholy error was committed, and it is therefore right to point out the possibility of its occurrence.

There is another point in the history of this case, which deserves attention. The partial evacuation of one of the abscesses through a small branch of the hepatic duct, causing some diminution of the swelling, shows the possibility of pus passing into the venous trunks, and thus being evacuated by the urine; and of late years, several experienced practitioners in India, have considered this to be a common termination of the disease. I have observed the large veins hanging loose into the cavity of abscesses, their coats unchanged, and their orifices only obstructed by soft and very slightly attached coagula of blood, which, in one instance, had given way, and hastened the death of the patient by hemorrhage into the abscess. But, although I have diligently looked for it, I have never discovered pus in the veins ; and have found the puriform deposits in the urine, considered as pus derived from liver abscess, present in cases where no abscess existed ; and in other instances, have ascertained the supposed pus to be secretions of a very different kind, yet, making every allowance for the many sources of error to which the observations in question are subject, the enquiry is one deserving of the utmost attention, and if the present state of science admits of it, a great benefit would be conferred on practitioners in warm climates, by a clear statement, from competent authority, of the

observations necessary to establish the fact, and the fallacies to which such observations are liable.

Notwithstanding the length to which this paper has already extended, I cannot conclude without expressing my opinion on the practice of giving mercurial medicines, where it is known that abscess in the liver has taken place, as is recommended in some works of authority, and appears to be much practised in this country. I have perused the histories of a great many cases, in which mercury in various forms was continued after the formation of matter, but have not met with one where it seemed to be otherwise than injurious, except, perhaps, where cautiously prescribed for other symptoms, supervening on some chronic cases; nor have I met in India, with any judicious practitioner of competent experience, who approved of mercury in any form, in such circumstances.

Wilton Crescent,

April 22, 1837.