BURSTING OF A LARGE HEPATIC ABSCESS

INTO THE

PERITONEAL SAC;

INCISION OF THIS LATTER; EVACUATION
OF PUS; FLUSHING; RECOVERY.

BY

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THE bursting of a large abscess into the peritoneal sac is so usually followed by rapidly fatal peritonitis, that an instance of recovery after this accident has seemed to me of sufficient interest to offer to the notice of the Royal Medical and Chirurgical Society.

In June, 1891, with Dr. J. L. Paul, I saw a gentleman, æt. 33 years, who three years previously had been invalided from India, having there had, he told us, "liver disorder which had left his health very broken." Upon his return to England his health improved so quickly that after a few months he regarded himself as quite well, and he resumed his employment—mercantile. In March, 1891, symptoms of hepatitis again supervened; and soon after this such a copious expectoration of pus

occurred, as left little room to doubt that an hepatic abscess had burst through the diaphragm, and emptied itself by the lung. Upon this, his condition again improved so that he was again able to take up his official work, though he remained far from strong; and in June he was again laid up with "liver disorder."

On 9th June (1891), when, with Dr. Paul, I first saw him, his symptoms were—"stitch in the right sixth intercostal space, and great tenderness there in a small spot intersected by a sagittal line drawn through the anterior fold of the armpit. The upper limit of hepatic dulness distinctly higher than normal. He had fever, he was haggard, and he looked and felt seriously ill.

Read in the light of his previous history, these symptoms appeared to be conclusive evidence that another abscess had formed in the liver, and also to hint that unless anticipated by timely incision, this would probably break into the lung, as the first one appeared to have done in the preceding March—an event it was most desirable to avoid.

Since, however, an incision made through the tender spot in the sixth intercostal space, into the liver, would have crossed the lower angle of the pleural sac, the diaphragm, and possibly the lower margin of the lung; and since from the absence of "fulness" in that space, and also of superficial œdema there (so frequently present over a deeply-seated abscess), it appeared not unlikely that the structures named might be already consolidated and agglutinated in such a way as to bar off the line of the wound from the pleural and the peritoneal sac, it was deemed by us prudent to defer the operation for a short time, the patient being in the interval closely watched by Dr. Paul, with a view to the prompt evacuation of the abscess by incision so soon as we had clearer indication of the course it was taking.

Two days later, sudden, very profound collapse supervened, the temperature fell below 97° F., and the patient appeared to be dying. Twenty-four hours later the col-

lapse was a little less extreme, and when I saw him on the second day, with Dr. Paul, he had slightly rallied.

The upper limit of hepatic dulness was then distinctly lower than before ; but from the costal cartilages downwards, nearly as low as Poupart's ligament, and from two finger-breadths to the mesial side of the right *linea semilunaris* outwards to the flank, the right side of the belly had lost its normal resonance and become dull.

Under these circumstances it could not be doubted that the hepatic abscess had burst into the peritoneal sac. Incision into this latter and flushing out appeared to offer the only chance of rescue. Chloroform was given. The abdominal walls were divided by an incision parallel to, and just external to the *linea semilunaris*. The peritoneum, subserous fat, and fascia transversa were not separately distinguishable, owing to œdema and infiltration. A large quantity of pus escaped from the peritoneal sac when this was opened. Of this, about Oj was caught in a vessel, and much more escaped into the bed and could not be measured. The cavity was then flushed out with a warm solution of boric acid in water until this returned quite clear and colourless. Next a large drain-tube was inserted, the ends of the tegumental incision were brought together, and an absorbent antiseptic dressing was applied.

The space containing the pus was bounded anteriorly by the parietal peritoneum, posteriorly by the convex upper surface of the liver above, and below by the intestines, coils of which were plainly recognised with the finger.

From the time of the operation the patient's desperate condition began to improve. Two days later the tube was shortened, as it seemed as if it were being pushed out by lessening of the cavity. He continued to make progress, and at the end of three weeks, the daily amount of discharge having greatly lessened, a smaller tube was substituted for the large one. At the beginning of July he was able to leave his bed and to sit up, and at the middle of that month he returned to his home in one of the suburbs.

After this he had a recurrence of pain and fever, attributed to premature withdrawal of the drain-tube. This was with some difficulty re-introduced by Dr. Paul, and the unfavorable symptoms disappeared. A tube was worn until November, when the wound closed.

The recovery of the patient without prompt evacuation of the pus from the peritoneal sac would, it is suggested, have been a most improbable circumstance, and it is claimed that his rescue may reasonably be ascribed to the incision and flushing. The success which attended these measures is an encouragement for the adoption of the like practice in similar circumstances.

It appears probable that during the extreme shock immediately supervening on the rupture of the abscess into the peritoneal sac, wider diffusion of the escaping pus was hindered by agglutination together of the intestines, thus confining it to the right side of the belly. How perilously weak was this barrier was apparent from the distinctness to touch of the coils of gut noticed at the operation ; they seemed to float in the pus.

The spot where the abscess broke through the liver-capsule was not ascertained, but it could not be doubted that it was in the upper surface of the liver ; its discovery had not any bearing on the technique of the operation, whilst the delay, and the disturbance of parts, entailed by much searching for it, would have added much to the patient's already very great peril.

The line of treatment here practised has been pursued in certain instances of peritonitis, *e.g.* those due to tuberculosis and to mechanical injury, with such a degree of success that it may fairly claim wider adoption. The idea is not novel : my co-librarian, Dr. Gee, has reminded me that it was long since suggested by John Hunter. For my own part, with present experience, I recall with regret recollections of fatal cases in former years in which a bolder treatment might have had a different issue.

Addendum.—Since the above notes were written the

patient has had a relapse, and his condition is now more unsatisfactory. In April of this year (1892) he had a slight rise of temperature, and with it uneasiness which he referred to the region of the liver. No enlargement of this organ was then perceptible, and these symptoms soon disappeared, but in the latter part of July he had again fever, and the liver was now found enlarged. There was also now tenderness in a very limited area at the right side of and slightly below the ensiform cartilage. He entered the Middlesex Hospital, where, on August 2nd, by an incision through the tender spot, an abscess was opened and emptied. This incision, from its direction and the depth at which the pus was reached, was believed to have entered the liver itself. Immediate relief was afforded, and on the 20th of that same month he went home, with the injunction to wear the tube until all or nearly all discharge had ceased. He gained flesh and strength, and returned to office work finding little inconvenience from the presence of the tube, which he had learned to manage. Except for this at the beginning of the present month he appeared quite well. All sign of enlargement of liver had disappeared. Quite recently, however, he has had a slight feverishness which made him apprehensive that an abscess is again threatening, although the region of the liver was free from tenderness, pain, and swelling. As, however, coincidently with the feverishness he had painful swelling of the knee-joint, and he had had, some years before, acute articular rheumatism, it seemed likely that the fever might be symptomatic of gonitis, and this the sequel established, since the rise of temperature disappeared after a few days with the recovery of the knee.¹

The danger attending the bursting of an hepatic abscess into the chest, and its discharging through the lung is well illustrated by the following case; for, although no necropsy could be obtained in verification of

¹ The patient, I am informed, is now apparently quite well.—J. W. H., July 19th, 1893.

the diagnosis, the clinical signs clearly indicated the liver to have been the focus of the abscess.

In February, 1876, Captain —, æt. 35, on service in India, had an acute illness regarded, he told us, as pleurisy; and a few weeks later, after an imperfect recovery, he had a second similar attack, which left his health so greatly impaired that he was invalided home to England. During his voyage his illness increased so greatly that it was scarcely expected that he would reach this country alive.

On the 29th May (of the same year) I saw him in consultation with the late Dr. Ch. Murchison and his medical attendant Dr. Thorne. His emaciation and weakness were extreme. His hands and feet were puffy. His urine was free from albumen. The right side of the chest was dull as high as the collar-bone. The intercostal spaces posteriorly below the lower angle of the shoulder-blade, and also laterally in the mid-axillary line, appeared to slightly bulge. Vocal thrill was scarcely perceptible. The heart was displaced much to the left of its normal position. The area of hepatic dulness was prolonged downwards to below the level of the navel; and throughout this large dull area there was distinct tenderness. He had extreme dyspnoea, temporarily and slightly relieved by coughing up large quantities of pus.

Dr. Murchison's diagnosis based on the above symptoms was hepatic abscess which had burst into the chest and lung. It was decided to verify the presence of pus in the lung by aspirating, and, if found, to evacuate it by incision and to drain, should this under the circumstances ascertained at the time be practicable. Nitrous oxide followed by ether was given by Mr. Braine. A long aspirator trocar was pushed into the chest one hand's-breadth below the lower angle of the scapula, and at a distance of six inches outwards from the vertebral spinous processes, and when the trocar had reached a depth of

3¼ to 3½ inches pus began to flow. One pint of very viscid, rusty, inodorous pus was drawn off. The patient's exhaustion was now so extreme that it was judged prudent, in the imminent risk of his death, to defer the longer measure of incision and drainage for a couple of days in the hope that, rallying, he might be better able to bear it. Two days afterwards, dyspnoea having again become very urgent, his chest was again aspirated, in my absence from home, by another surgeon. The result was negative, pus was not found, and a few hours later death ensued. A necropsy was not permitted. That the pus here drawn off was not in the pleural sac but contained in a large abscess-cavity in part within the lung itself is, I submit, a fair inference from the great depth to which the trocar passed before pus began to flow. Obviously if the diagnosis was correct the cavity could not have been perfectly drained by a thoracic incision alone ; for its efficient drainage a lower incision through the belly-wall into the liver would have been necessary. The marked tenderness of the hepatic area suggested the probability of the presence of peritoneal adhesions lessening the risk of the escape into the peritoneal sac. If it be asked why, in view of these circumstances, such lower opening was not made in the first instance ; the apology is that the presence of pus in the chest was already known, whilst liver-abscess had only a high degree of probability. Moreover in India, where his illness began, it was regarded as pleurisy, and since the patient's arrival in London, before Dr. Murchison saw him, we were informed that two physicians much occupied with chest-diseases had examined him and pronounced him to have empyema only, and these opinions were not wholly without influence.

(For report of the discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' Third Series, vol. v, p. 22.)