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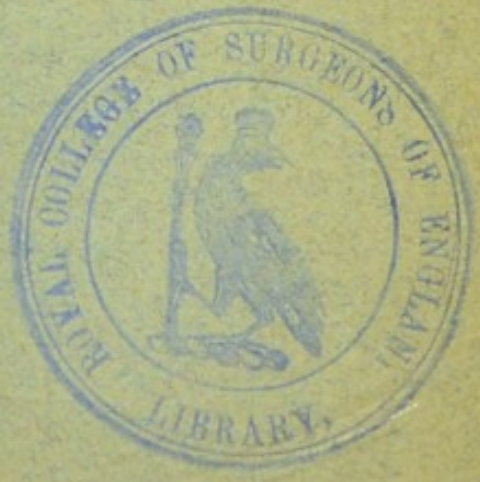

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REMARKS ON "HEPATIC PHLEBOTOMY."

Introduction to a Discussion on the Surgery of the Liver in the Section of Surgery at the Annual Meeting of the British Medical Association held in Brighton.

By GEORGE HARLEY, M.D., F.R.S.
Late Physician to University College Hospital.

Case of Hepatitis with Dropsy, in which Hepatic Phlebotomy was performed.

Every reflecting practitioner is aware that neither cupping nor leeching the abdominal parieties can have any direct effect on the amount of blood present in an inflamed liver, from the simple fact that there exists no direct communication whatever between the blood-vessels in the abdominal walls and those of the hepatic organ. For while the blood entering the liver comes direct from the cœliac axis on the one hand, and from the union of the veins of the chylo-poietic viscera into the vena portæ on the other, that issuing from the liver flows directly along the hepatic veins into the vena cava. It is patently evident, then, that the only way in which either cupping or leeching the hypochondriac region can diminish the amount of blood present in an engorged liver, must be simply from the indirect effect the cupping or leeching has upon the hepatic circulation by its reducing the total amount of blood circulating in the patient's body. Precisely in the self-same way as a brachial venesection does; though probably the cupping or leeching does so much less effectually than a general depletion from an opened blood-vessel. Such being the case, I have little doubt that not merely one, but many of my reflecting *confrères*, have thought over the curative paradox of applying leeches or cupping glasses to the abdominal walls, with the view of directly relieving an engorged condition of the liver. And seeing that many of the patients attacked with hepatitis in this temperate climate are more or less of intemperate habits, though they may be by no means drunkards, and have usually too little blood in their systems to admit either of leeching or cupping being carried sufficiently far to abstract such an amount of blood from the general circulation as would suffice to make an appreciable impression on the quantity present in an engorged liver, I deem it not improbable that the idea of abstracting blood directly from the liver itself, as a remedial measure, in bad cases of acute hepatitis may have suggested itself to the minds of

some of them. Indeed, I cannot refrain from thinking that it is impossible that such an idea can have failed to cross the minds of all who, like myself, have had occasion to withdraw blood by a trocar from the livers of healthy living animals. For the result of their experiments would make them aware that the livers of dogs, rabbits, and other animals can be tapped for blood with perfect impunity, in so far as any actual danger to life is concerned. This fact I first became conscious of while working in Paris in 1853 at the artificial production of diabetes in animals, by the direct introduction of stimulants into the portal veins. ("Rechereches sur la Physiologie du Diabète Sucre," *Compt. Ren. Soc. Biol.* Paris. B. v. p. 59.) While, years afterwards, when preparing a paper on "The Saccharine Function of the Liver" for the Royal Society (*Proceedings of the Royal Society*, vol. x, p. 289), I had frequent occasion to withdraw small quantities of blood from the livers of living animals by a trocar, without, on any single occasion, as far as I can now remember, observing any bad consequences follow upon the procedure. So far, indeed, from this being the case, I on more than one occasion noticed that when the animals, in the course of the research, had to be sacrificed within a few days afterwards, no blood had apparently escaped from the wound in the liver, for none was found extravasated into the abdominal cavity, and even the wound made in the liver's capsule by the trocar was, in many cases, only detectable as a small circular ecchymosed spot, without even so much as an inflamed area surrounding it. The idea then of withdrawing blood directly from the tissues of an inflamed human liver is neither so Utopian, nor so heroic a curative procedure as the uninitiated might at first sight imagine. And I think my *confrères* can scarcely feel surprised that, when I had made liver diseases a speciality, and began to be called to the bedsides of patients in cases of severe hepatitis who seemed to me to be dying from nothing else than the intensity of the engorgement of the liver's blood-vessels—(where it appeared to my mind that relief given to the engorgement by the direct abstraction of a few ounces of blood from the hepatic vessels might possibly arrest the progress of the case, and, at the same time, not improbably suffice to save the life of the sufferer)—I ventured to suggest to my brother consultants the advisability of trying the curative effects of hepatic phlebotomy. Nor will my hearers probably be astonished to learn that the proposition usually met with scant courtesy when I made them aware that the operation was one that had never been performed on the human subject, and that all the experience I had of it was from experiments on dogs. Sometimes, however, the objection came solely from the patient, or the patient's friends. At length, I was fortunate enough to meet, in a hopeless case of hepatitis, with ascites and anasarca, a medical brother sufficiently freed from the trammels of erroneous clinical teaching, and a patient and husband brave enough to let me try the effects of hepatic phlebotomy as a forlorn hope, when the case had already reached the very gates of death. And I shall now relate the result, as well as exhibit the instrument with which the operation was performed.

Before doing so, however, as recent experience has taught me that it is a great mistake in bringing anything new before the profession, to take it for granted that all medical men are equally learned, and consequently equally able to grasp the value of new ideas based upon scientific facts, it may be as well for me to emphatically premise—for the sake of those who may chance to doubt it—that there is but little risk of air entering a vein during the operation, if it be performed in the way I am about to describe. This arises from the simple fact that the trocar is to be inserted into the upper and convex part of the liver, where no large veins whatever exist ; and even should there chance to be, on account of some abnormality in the distribution of

the vessels, one or two in this portion of the organ, it is a most unlikely thing that a cannula of the size of between a No. 2 and No. 3 English catheter would encounter one of sufficient calibre to admit of the accidental lodgment of its free extremity within the interior of the vessel, so as to admit the entrance into it of air.

No doubt the vessels of an inflamed liver become greatly enlarged. For we know that while but little blood flows from a healthy liver, when its tissues are cut into in the *post mortem* room, it occasionally happens that an enormous escape of blood follows upon the section of an engorged organ. Even then, however, it is difficult to imagine it to be at all likely that a hepatic vein, large enough to admit either a No. 2 or 3 sized English catheter into its interior, would be accidentally stumbled upon in the upper and convex portion of the liver, seeing that no large hepatic blood-vessels, either veins or arteries, are normally to be encountered except in the neighbourhood of the portal fissure. Be it remembered, too, that the entrance of air as a source of danger only exists in the case of the hepatic vein. For it alone could by any possibility allow of a sufficiency of air arriving at the heart in an undivided state to cause death. Air in some quantity might enter either the arterial or portal venous systems with comparative impunity, on account of its requiring, in that case, to traverse the minute hepatic capillaries—where it would of necessity become so diffused as to be rendered harmless—before it could reach the heart.

Having now, I think, cited a sufficiency of facts to satisfy the doubting minds of those who, from having no personal experience of hepatic operations, are still unemancipated from the erroneous theoretical teachings of our schools, regarding the extreme danger of operations on the liver, I shall proceed to relate, in as few words as possible, the case in which hepatic phlebotomy was had recourse to as a remedial measure in a hopeless case of inflammation of the liver.

In September, 1884, Dr. Dunbar Walker asked me to see a married lady, aged 38, who a month before had been attacked with hepatitis. When he first saw her, he found the liver greatly enlarged and indurated (she was a woman of intemperate habits). The lower part of the body anasarcous, and the abdomen filled with fluid. Dr. Walker tapped the abdomen, and gave aperients without any material advantage. After a fortnight's treatment, the liver was not only undiminished in size, but the dropsical symptoms as bad as ever. At the time I was called in, the patient appeared to be in a perfectly hopeless state, and knowing from experience that the ordinary routine of orthodox practice would be of no avail in arresting the downward progress of the case, I proposed trying the effect of hepatic phlebotomy as the only likely means of saving the patient's life.

Dr. Walker agreed with me, that although the withdrawal of blood directly from the engorged liver appeared to be but a forlorn hope of saving the life of the sufferer, as it might possibly mitigate some of the most distressing symptoms arising from the virulence of the inflammation of the organ, it would be well to try it. On our proposing the operation to the husband and patient, it was declined. A day or two afterwards, however, when the symptoms had assumed a still more aggravated form, and the hopelessness of the case had become apparent even to their inexperienced eyes, they assented to make a trial of the operation, and it was accordingly had recourse to in the following wise.

Dr. Walker having rendered the lady insensible with the A.C.E. mixture, I pierced the upper part of the liver from right to left with an eight inch long trocar of the diameter of between a No. 2 and No. 3 sized English catheter. The normal liver being at least ten inches broad, in an averaged sized woman, and this liver being greatly enlarged—several inches, both laterally and perpendicularly—I felt

perfectly safe in running the eight inch long trocar up to its very hilt. This was done in the hope that during its transverse penetration of the organ it might wound one or more vessels—veins or arteries, it did not matter which—of sufficient calibre to yield a free stream of blood. In this hope we were in no wise disappointed ; for on gradually withdrawing the end of the cannula, about an inch or two, so as to allow of the blood oozing from the wounded vessels, to enter the cannula from the canal left in the liver-tissue by the receding instrument, a stream of blood immediately issued from its free orifice. The stream in this case was far larger than I had ever witnessed flow from the healthy liver of any dog or other animal I had operated upon in a similar way. This I of course attribute to the engorged state of the liver's vessels on account of the hepatitis.

Twenty ounces of hepatic blood were abstracted without the slightest deleterious result. Quite the contrary, indeed. For, as may be gathered by the following words in Dr. Walker's report, the operation had a salutary effect, far beyond our expectations.

Dr. Walker's own words are : " From the day of the operation, the liver became gradually reduced in size. With the aid of tapping and the administration of the resin of copaiba, the ascites and general anasarca disappeared, and by the beginning of December (that is to say, in two months) the patient was already able to walk out." As a supplement to this, I may add that, exactly eleven weeks after the blood had been abstracted from her liver, the patient walked from her own house at Notting Hill to mine in Harley Street, which is a distance of nearly three miles, and expressed herself as feeling " perfectly well, only a little weak and stiff from the walk." All the dropsy had by this time disappeared. I could detect no fluid in the abdomen ; while, from the hepatic dulness in the right nipple perpendicular, being just above four and a half inches, the liver might, I think, be said to have regained its normal dimensions.

P.S.—I ought to have mentioned that, after the operation was finished and the cannula withdrawn, a two-inch square piece of sticking-plaister was put over the seat of the abdominal puncture, and the abdomen tightly bandaged (with a four-inch-deep cotton roller), in order to bring the abdominal parietes into close contact with the wound in the liver's capsule, so to avoid all possibility of hæmorrhage into the peritoneal cavity, should the natural resilience of the hepatic tissue not suffice to close the opening ; a thing very unlikely to occur, unless the operation were bunglingly performed, and some large blood-vessel wounded, on account of the trocar not having been properly inserted.

ON PUNCTURING THE LIVER'S CAPSULE,

AS A REMEDIAL MEASURE IN

CASES OF CHRONIC CONGESTIVE HYPERTROPHY.

ALL familiar with the course of liver inflammations, are aware that the first stage in the sequelæ to a severe attack of hepatitis—no matter whether it be the direct result of intemperance, malaria, or chill—is a chronic, enlarged, hardened condition of the liver. While in different cases the extent of the enlargement varies considerably, the amount of induration, as calculated by palpation, differs but little. The general symptoms arising from this condition of liver are more or less marked in direct proportion to the extent of the enlargement. When the increase in the size of the liver is slight, even although the induration be marked, the discomfort it occasions is, comparatively speaking, trifling. Whereas, when the organ is considerably enlarged—say, more than eight inches—in the right nipple perpendicular line, the general symptoms become as well marked as the physical signs. The chief thing the patient complains of is, however, the local discomfort, proceeding from the enlarged liver. Its pressure on the neighbouring organs producing feelings of heavy weight, and a dull pain all over the hypochondriac region, specially complained of when lying on the side—sometimes most when on the right, sometimes most when on the left side. The weight of the organ, too, when the patient is in an upright position, is frequently spoken of as being a great burden. Acute pain is rarely complained of; but even the bodily distress the mere feelings of discomfort just alluded to occasion, are, in general, sufficient to make the sufferer seek medical advice. The action of the bowels is usually irregular (most often constipation is troublesome), and the kidneys act capriciously. The urine is usually of high specific gravity, and frequently deposits, after standing for twelve hours or more, both oxalates and urates. The complexion assumes a dingy hue, and the whites of the eyes become yellow. Although it is seldom that the discoloration either of skin or eyes is sufficient for the patient to be called jaundiced.

Unfortunately for the credit of our craft, we can do but little for such cases. The symptoms not being acute, cupping or leeching is out of the question, while blistering, in the majority of instances, does more harm than good. The application of hot fomentations and the administration of saline purgatives are usually about the only things that afford relief. Even their action has the disadvantage of being slow, as well as but little effective. Not a pleasing matter for the specialist, who is, in general, expected to be able to suggest both a rapid and effective remedy for every case he is consulted about. The impotency of the usual routine-forms of treatment in these cases, led me to reflect on their pathology, in the hope that probably some more efficient form of treatment might suggest itself. The result of the reflexion was that I came to the conclusion that, first, nearly all the pain, and a great deal of the discomfort, in cases of hepatic congestive hypertrophy is directly due to the pressure to which the but recently inflamed and still congested hepatic tissues are subjected, from their

being confined within a strong inelastic fibrous capsule; and, secondly, from knowing that immediate relief often follows upon the puncturing of other equally unyielding fibrous coverings (when their contents are in a state of acute or subacute inflammation), it occurred to me that it was not improbable that cases of congestive hepatic hypertrophy might be equally advantageously treated by puncturing the capsule of Glisson. As cases of orchitis are treated, by puncturing the tunica albuginea: or acute sciatica, by puncturing the distended sheath of the nerve: or a painful whitlow, by puncturing the tense unyielding fascia over the inflamed part of the finger. This view of the matter obtained, to my mind, additional support from the fact that not only I, but many others, have met with cases where patients have expressed themselves as feeling more comfortable after an unsuccessful exploration of the liver for an abscess, than they did before the operation. While, in some cases, even although the operation had to be regarded as unsuccessful, in so far as the discovery of pus was concerned, it might, nevertheless, occasionally be looked upon with satisfaction, from its being followed by a marked diminution in the physical signs, as well as by an amelioration of the constitutional symptoms. It was only last Sunday week that a lady, aged 45, suffering from an hepatic abscess, into which I thrust three differently sized exploring trocars (along with Dr. Thompson, of Addiscombe, whose case it was), immediately said that she felt relieved by the operation, notwithstanding that only a few drops of pus had come away, in consequence of the purulent matter being too thick and tenacious to flow through the exploring instruments. It is these and such like facts that led me to think of trying the effects of hepatic capsule-puncture, as a remedial measure, in severe cases of congestive hypertrophy. And I may add that, although I have as yet only ventured to perform it in exceptionally bad cases (where one could not possibly expect more than a temporary advantage to arise from it), the results, as will be shown in the cases I am about to relate, are sufficiently favourable to lead to the hope that when the benefits arising from the operations have been further tested, it is not unlikely that they may be found to be sufficiently satisfactory to ensure the operation attaining to the position of an ordinary remedial measure in suitable cases of hepatic congestive hypertrophy.

As regards the mode of procedure, it is as follows: With ordinary trocars, varying from the calibre of a No. 2 to a No. 6 sized English catheter, I make, according to the strength of the patient and the gravity of the symptoms, from three to six punctures into different parts of the anterior of the liver. The punctures being distributed proportionally in the right or left lobe of the liver, according to which is the most gravely affected. I withdraw the trocars, and leave their cannulæ in the wounds for a minute or two, to admit of the oozing away of any liquid that may chance to be present at the seats of puncture. No anæsthetic is necessary, nor any other precaution beyond the employing clean instruments lubricated with carbolised oil. When the operation is completed, all I do is to cover over each seat of puncture with a separate two inch square sized piece of diachylon plaster, and secure them from being rubbed off, as well as keep the abdominal wall close against the liver, by putting a few turns of a four-inch broad cotton roller round the abdomen. The patient is told or remain in bed for twelve hours, and to take no stimulants for twenty-four hours.

I will now relate a couple of very bad cases in which the operation was attended with marked temporary advantage. The first is the case of a lady, aged 57, who suffered from a prolonged attack of hepatitis, with a great enlargement of the liver, whom I repeatedly saw in conjunction with Dr. Buck, of Primrose Hill. When I first made a physical examination of her abdomen, I found that the lower margin

of the liver extended to within a couple of inches of the pubis. Two months later, although many of the acute symptoms had subsided, the liver was still so greatly enlarged and hardened that we determined to try the effects of puncturing its capsule. This was accordingly done in six different places; and so hard was the liver that the penetration of the trocars at two points in the right lobe communicated to the hand the feeling as if a dense fibrous tumour was being penetrated. A rapid diminution of the size of the organ, nevertheless, speedily followed upon the operation; and it was even thought, not only by Dr. Buck and me, but by the nurse and patient herself, to have become softer. The gravity of this case may possibly be gleaned from the fact that at the necropsy, made six weeks later, not only was a small abscess found towards the convex surface of the right lobe (near its union with the left), which was the most indurated, but the left lobe of the liver was at the same time in an advanced state of fatty degeneration. Such a condition of matters would but a very few years ago have been looked upon as most anomalous; but, in the present advanced stage of pathology, there appears nothing extraordinary about it, seeing that we now know that, while fatty degeneration may occur in a solid bone as well as in a fibrous tumour, suppuration may take place in any form of degenerated tissue.

I will now give the result of puncturing the capsule in a less serious though still unfavourable case for the success of the operation, in which a yet more rapid as well as more extended amelioration, both in the state of the liver and feelings of the patient, was the direct issue of the operation.

The case was that of a gentleman, aged 52, who had for many years resided in the tropics, where he admitted that he had not only lived well, but more than well, having indulged freely in *tres sec* (sour) champagne, the result of which was that he had not alone been attacked with hepatitis, but jaundice as well. On his first arrival from the tropics, I found the liver very much enlarged in all directions. The right lobe's lower margin reached below the umbilicus. Under the action of mercurials and salines he greatly improved, and the improvement further continued during a six weeks' residence at Carlsbad. Notwithstanding this improvement, however, when he came back from Carlsbad the liver was still greatly hardened, and so enlarged, especially transversely, as to reach two inches beyond the left margin of the xiphoid cartilage, and measure six inches perpendicularly. Being anxious to return to his business in South America, he consented to allow me to try the effect of puncturing the capsule. The operation was accordingly done; and while I punctured the greatly enlarged left lobe in two places with a No. 2 sized trocar, I punctured the right lobe in one place with an instrument of the size of a No. 5 English catheter, in each instance retaining the cannula for a few minutes in the wound. The immediate result surprised me, for when I saw him on the following day, exactly eighteen hours after the operation, I found him not only out of bed, but busy writing letters, without a single bad symptom, all he complained of being a feeling of tenderness at the seats of the punctures. This was not the most remarkable feature of the operation, for the patient actually walked to my house, a distance of a quarter of a mile, three days after its performance, and stated that he felt perfectly well, and ready to start for South America. To this of course I could not consent, notwithstanding that the hepatic dulness was much diminished, and all the tenderness on pressure which he had previously complained of had disappeared. He consented to delay his departure for a couple of weeks, and on the twenty-second day after the operation he sailed for the tropics, considering himself cured.

I saw no more of the patient for seven months, when he again returned to England. The account he gave of himself was that he had

remained perfectly well in the tropics so long as he was prudent; but at the end of four months, from thinking himself quite safe, he recommenced indulging in champagne, occasionally drinking as much as a bottle and a half at a sitting. The result, as might be expected, has been a complete breakdown, and he is now labouring under hepatic ascites, and has returned to Carlsbad in the hope of being cured. But that is unfortunately very unlikely, as we all know that a severe relapse in cases of liver-disease is in general far more difficult to cure than the original attack.

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Fenton

REMARKS ON

HEPATIC PHLEBOTOMY, AND

PUNCTURING THE LIVER'S CAPSULE, AS

REMEDIAL MEASURES IN

HEPATIC DISEASES.

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REMARKS ON HEPATIC PHLEBOTOMY, AND PUNCTURING THE LIVER'S CAPSULE AS REMEDIAL MEASURES IN HEPATIC DISEASES.

By GEORGE HARLEY, M.D., F.R.S.,
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Seeing that the study of liver-diseases has not only come prominently to the front in recent years, but that, at present, when hepatic surgery is actively engaging the attention of some of the most acute and original thinkers in the profession, both in Europe and America, the members of our own Association, familiar with liver-diseases, take a deep interest in the subject, as was manifested not alone by the animated discussion which followed upon the reading of the above-named papers at our agreeable and instructive Brighton meeting, but by the letters[1] that have since appeared in the Journal, I crave leave to make a few more observations on the matter. This appears to be all the more desirable since it is highly probable that these newly proposed methods of treatment may open up an entirely fresh epoch in the handling of many of the liver-cases which have hitherto been regarded as among the most intractable, and consequently most hopeless, forms of disease. As well as from the fact that some of the gentlemen that have commented upon them in the pages of the Journal have unwittingly confounded the two above-named new forms of operative procedure with two old ones—namely, hepatic exploration, associated with accidental hæmorrhage, on the one hand, and the Chinese system of acupuncture, upon the other—entirely distinct surgical procedures, which resemble them in nothing, except in so far as it is the same organ of the body that is operated upon, and the instruments employed happen to possess the same form.

There being apparently no longer any doubt as to the practical value of the newly proposed method of hepatic phlebotomy in suitable cases, from even the personal experience of accidental hepatic hæmorrhage

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[1] British Medical Journal, November 13th, p. 899; December 4th, pp. 1134-5.

recorded by its adverse commentators, pointing strongly in favour of the operation, I can at once proceed to explain what are the differences not only as regards the nature, but the actual objects of hepatic phlebotomy and hepatic exploration, with hæmorrhage, on the one hand, and Chinese acupuncture and puncturing the capsule of Glisson, on the other—four such distinctly different forms of hepatic surgery, that it is almost inconceivable to me how any well-educated man could possibly have fallen into the error of confounding them. Nevertheless, as the readers of the JOURNAL must have seen, this has actually occurred, not alone in the case of Dr. Boyes Smith, but likewise in that of Surgeons Alexander, Ryan, and Quill—all army men. I think it my duty to endeavour to remove the ambiguity. And, while doing so, in order to increase the value of the communication, I shall take the opportunity of throwing out one or two practical hints, which, if attended to, will, I think, greatly tend to diminish the dangers which occasionally attend the present modes of exploring the liver for purulent matter.

First, then, as regards exploring the liver for pus. This is an operation which has been had recourse to by our Indian *confrères* for nearly forty years. If I remember right, it was first done in the Bengal Presidency about the year 1848; and, to my personal knowledge, it has been practised in London since the year 1864. At first the instruments employed in the performance of the operation were merely ordinary trocars of about the size of No. 12 English male catheters. But as dangerous, and sometimes even fatal, hæmorrhages occasionally followed upon the operation, much smaller instruments began to be employed, and now it is the fashion only to use the needles of an aspirating apparatus. Even with these, however, regrettable accidents have occurred, most probably, I think, on account of the operators thrusting the exploring instruments into any and every part of the liver where pus is suspected to exist, without paying any attention to the anatomy of the organ, either as regards the distribution of its vessels, or the relationship of the point at which its surface is penetrated to the interior of the abdominal walls. This opinion I arrive at from the fact that, notwithstanding the frequency with which I have had to operate upon the liver during the last twenty years, I have never on one single occasion as yet encountered any dangerous hæmorrhage.

The precautions I take are the following: (*a*) Always to commence the exploration either with a fine aspirating needle, or an equally fine 7 inch long French exploring trocar, attached to a small (drachm sized) glass syringe, which acts as an aspirator, and admits of my at once perceiving whether I have pus, hydatid fluid, or blood to deal with. So that, if need be, I can instantly withdraw the instrument.

When pus is the product found, as it flows but badly through a small tube, I replace the fine instrument with a larger one, attached to which is a caoutchouc exhausting ball, aspirator,[2] and syphon-tube, with which I can withdraw the purulent matter.

(*b*) I never allow the point of my exploring instrument to go any-

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[2] This mode of aspirating the liver I was led to adopt from my having, on one occasion, been present at a liver-exploration when one of our metropolitan hospital surgeons had the misfortune to withdraw a quantity of liver-tissue. And on another occasion I had a liver sent to me for examination, with a cavity in it, the size of a small orange, produced, as I imagined, by the surgeon's aspirator having acted too powerfully, and sucked out the softened liver-tissue. With the caoutchouc ball all danger of an over-suction is annulled, and it possesses the additional advantage of admitting of a graduated aspiratory pressure being employed, by slowly relaxing the ball with the fingers, which is often a point of no mean importance in certain cases. Since my first employing this caoutchouc contrivance, I have almost entirely abandoned the use of the metallic aspirator, either in exploring the liver, emptying cysts, or withdrawing acetic fluid from the abdomen.

where near those portions of the liver in which its large blood-vessels are normally situated.

(*c*) I make it a point always to penetrate the capsule at a part of the liver where the wound-orifice (after the withdrawal of the instrument) can be brought into immediate contact with the abdominal parietes, so as to admit of the opening into the liver being firmly closed by the direct pressure produced upon it from the application of a pad and tight bandage to the abdominal walls. Thus, I believe, is precluded all possibility of any hæmorrhage taking place from the liver into the peritoneal cavity after the completion of the operation. The external abdominal wound I simply close with a two-inch-square piece of sticking-plaster.

If these common-sense precautions be taken, I think it is very unlikely that any such untoward accident as that which Dr. Boyes Smith tells us befell him would be likely to occur. Namely, that his patient died in a state of collapse, from hæmorrhage into the abdominal cavity, within a few hours after his exploring the liver for an abscess. Nor do I believe it is at all probable that the accidental hæmorrhage occasionally occurring during the operation of exploring, would ever reach an amount sufficient to endanger life. The escape of a few ounces of blood during the operation is never dangerous. We are even told by the very correspondents, who are apparently anxious to deprecate the employment of hepatic phlebotomy in acute hepatitis, that in the course of their own experience the bleeding has been followed by salutary results! Indeed, when the wording of their letters is carefully analysed, it is difficult to see why they were ever written, unless it were solely for the purpose of depriving me of the credit of being the first who ventured to employ hepatic phlebotomy as a remedial agent. For their only cry is "hepatic phlebotomy is not a new operation; as blood has been withdrawn from the liver during the course of an exploration for abscess." Seeing, however, that the one operation is performed solely with a diagnostic intent, and the other with a direct curative one, it appears to me about as logical to say that they are identical (on account of the occasional occurrence of accidental hæmorrhage), as it would be to call the accidental wounding of a brachial vein during the opening of an abscess in the arm, a venesection. Of course, the assertion in the latter case would be instantly condemned as preposterous. But is it one whit more preposterous than to call an accidental liver-hæmorrhage hepatic phlebotomy? I think not. So I will leave the point, and now add one or two more hints that may be useful to would-be operators, in addition to those already given in my paper.[3] These are: that, as all enlargements of the liver are not suitable for hepatic phlebotomy—to wit, those arising from cancerous, fatty, and amyloid degenerations—great care ought to be taken that a correct diagnosis is made before entering upon the operation. This is all the more imperative, seeing that it is sometimes difficult to differentiate different kinds of liver-enlargements. Fortunately, however, should a mistake in this respect be made, it is consoling to know that it is very unlikely much blood will come away: probably not more than a few drops. For it is only when the liver-tissues are engorged that blood flows freely from the organ when it is punctured.

Having finished with the subject of hepatic phlebotomy, I now come to the consideration of puncturing the capsule of Glisson as a remedial measure in cases of congestive hepatic hypertrophy, which some of our associates boldly assert is the same operation as the old Chinese one of acupuncture. The mere fact of acupuncture (as the word *acus*, a needle, implies) being performed with solid gold or silver

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[3] British Medical Journal, November 13th, 1886, p. 899.

needles in painful affections, and my operation being performed with trocars and cannulæ in a diseased state of the organ which is anything but painful, one would imagine might presuppose that the two forms of operative procedure were entirely distinct. Except in so far as the same organ happens to be the one operated on, and the instruments employed possess the same form. Some of our associates, however, appearing to be of a different opinion, and no doubt having good grounds for their belief, I would suggest that they furnish us with all the facts in their possession regarding acupuncture of the liver as practised by the Chinese. I must candidly admit I know nothing whatever regarding it, except from the vague and unsatisfactory statements that have at various times appeared in our weekly medical journals, from the pens of men who, though writing as if they knew all about it, never by any chance whatever, as far as I am aware, condescend to furnish their readers with a single particular.

So soon as my critics have detailed the grounds of their criticisms on this point, I shall, to the best of my ability, duly consider and comment upon them. Meanwhile, I think I have said sufficient to prove that Messrs. Smith, Alexander, Ryan, and Quill have erred in confounding two entirely new operations with two totally distinct old ones, with which they have nothing whatever in common, either as regards nature or design.

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