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[From THE MEDICAL NEWS, June 4, 1887.]

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693.

A CONTRIBUTION TO HEPATO-PHLEBOTOMY.

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My experience in abdominal surgery has occasionally brought to my notice cases in which the existence of a tumor was suspected because of the general enlargement of the abdomen, which, however, upon examination has proved to be due to tympany, or ascites, depending frequently for its cause upon diseases of liver or mesentery.

The ascitic cases have always proved more or less disappointing and unsatisfactory subjects for treatment, and it is with a desire to make some small contribution to an exacter knowledge and possibly better therapy of this difficult subject that I have written the following, describing two of my cases which are most valuable suggestively.

The first stands as a type of many others, in which the sole effective treatment consists in a series of tappings more or less frequent. In the second I have detailed my effort to deal more directly with the disease by a short incision—abdominal section—rapid and thorough evacuation, careful inspection, with the end in view of abstracting blood directly from a diseased liver.

CASE I.—J. N., ropemaker, aged thirty-nine, of good habits, with the exception of inordinate tobacco-

chewing. He has long been a chronic dyspeptic, but otherwise in good health, until his abdomen began to enlarge. The swelling continued until his girth was fifty-two inches, and he weighed two hundred and twenty pounds in August, 1884, when he came to me for treatment. He then complained most of frequent belching, constipation, discomfort from the extreme distention, and orthopnoea. The skin was muddy, and the conjunctivæ slightly yellow. I drew four bucketfuls of fluid from his abdomen, when a violent cough set in and stopped the tapping. He was tapped a second time in nine weeks, and once more after several months; the last time through a capillary tube, which emptied the peritoneal sac completely, drop by drop, in thirty hours, without any discomfort to the patient. He weighed after tapping one hundred and sixty pounds.

Medical treatment did not at any time affect his condition. He took large doses of ammonium chloride, iodide of potash in large and small doses, arsenic, diuretics, diaphoretics, and purgatives, and mineral waters.

After tapping, a greatly enlarged liver could be felt almost filling the right side of the abdomen. The free border and smooth convexity were readily palpable following a greater curve concentric with the smaller normal curve.

The diagnosis made was enlargement of the liver due to interstitial hepatitis. He still lives, but is no longer under my care. The futility of my efforts here led me to adopt a bolder plan in the next case, cited below.

I had long since convinced myself that the simple exploratory incision into the peritoneum was absolutely free from danger, when surrounded by those precautions which every prudent surgeon now un-

derstands. Observation had also shown me that when supposed abscesses were hunted for by plunging a large size aspirating trocar into the liver no bad results ever followed the injury. The largest trocar I had seen thus used was two and a half millimetres in diameter.

Combining these two factors of experience the suggestion was a natural one, that it would be safe to open the abdomen in a case of disease of the liver due to chronic congestion or an acute enlargement, and draw off a considerable amount of blood, and in cases of coexisting ascites to secure at the same time a thorough evacuation of the fluid, even to dryness. Indeed, the dangers of such a procedure, properly performed, are, I am sure, less than those of tapping in the hands of many, to whom it is merely a matter of plunging an unprepared trocar into the abdomen at any seemingly convenient point, and after an evacuation, covering the hole with a bit of sticking plaster. My determination was, in the next case similar to the one detailed, to make a short but fair trial of the usual resources, and then, in event of failure, to open the peritoneum promptly, thoroughly evacuate the fluid, examine the liver by touch and inspection, and in case of congestion, or any acute enlargement, to plunge a suitable trocar into its substance, and draw off a sufficient amount of blood.

In the meantime Dr. George Harley delivered an admirable address upon this subject before the British Medical Association at Brighton last summer. I had the satisfaction of hearing this paper read, and thus felt more assured in my first attempt in having with me the weight of so eminent an authority. Dr. Harley's method was different from my own, but the

result aimed at was the same. This will be discussed later.

CASE II.—J. D., aged forty-three, had been a gin-drinker, although he stoutly denied it, all his life. He stated that he had always been well until a recent fall from a dummy-car, when the abdomen began to swell, and it had continued to enlarge until he measured thirty-nine inches in the girth, when I saw him. His frame was much emaciated, the eyes slightly jaundiced, and his belly greatly distended. He had had a fair trial of appropriate medical treatment at the Episcopal Hospital, without benefit; I also tried the usual remedies without helping him. On the twenty-ninth of October, 1886, Dr. T. B. Bradford etherized him, and, assisted by Dr. W. J. Freeman, Dr. R. P. Harris being present, I made a small incision through the thin abdominal walls in the linea alba. The fluid welled out, and by elevating the shoulders and hips, and at the same time rolling him on his side, a perfect evacuation of the fluid contents was secured.

I was then able to catch the liver between two fingers, and with the assistance of a little pressure from without, it was brought fully into view at the incision.

It was pale, hob-nailed, and contracted, and as no possible benefit could reasonably have been expected from puncture and an attempt at bloodletting—if, indeed, any blood would flow from such a gristly structure—the incision was closed. It healed quickly, the patient died forty-seven days after the exploration, in the natural course of his disease.

Thus by a simple operation which may be described, so long as it is confined to a small incision quickly closed, as a modification of the puncture method, I secured a quick, complete evacuation of

fluid, and had the liver in my fingers and under my eyes, determining the exact nature, and the exact extent of the morbid process.

The nature of the disease in this particular instance could have been as readily determined after an ordinary tapping, but I was acting under the conviction that the safety of my incision was equally great, and I determined at once the *extent* of the disease, although my *expectation* had been of finding the liver enlarged.

The further procedure would then have been to plunge a trocar three millimetres in diameter into the liver substance, guided by eyes and fingers to the elected point, avoiding gall-bladder, intestines, greater bloodvessels, or the possible simple transfixion of a lobe, and through this draw off a sufficient quantity of blood.

It is for this procedure, which Dr. Harley calls hepato-phlebotomy, that I ask a fair trial, insisting that a diagnostic incision of this sort, with the attendant advantages of inspection and immediate palpation, is far preferable to weeks and even months of protracted treatment in obscure cases. I would especially urge it in ascitic cases where some operation is necessary to remove the fluid.

Dr. Harley's method is different from my own, as he taps the liver (from without) through skin, fasciæ, muscles, and peritoneal reflections; he also extends the indication to include puncture of the tense capsule in chronic hepatitis, mostly malarial. He has found in these latter cases that, just as puncture of the tunica of a swelled testis, or of the sheath of an inflamed sciatic nerve gives relief, so multiple punctures of the painful liver in these cases are valuable. He has made as many as six punctures in one case, using a trocar eight inches long, which enters from

right to left up to its hilt; it is then a little withdrawn allowing a channel for the accumulation of the blood, which now flows readily into the aspirator. He justified his procedure by the statement that cupping, leeching, or any abstraction of blood from the hypochondrium has no more effect than so much general depletion; he has also observed for thirty years past that, owing to the elasticity of the liver, no extravasation of blood follows simple puncture of the liver. Thus he was led to adopt the plan he so ably advocated at the Congress.

Out of several cases reported all were relieved, and the first was cured. A lady who had an enlarged liver and anasarca following an attack of acute hepatitis a month before, was tapped in the manner described, and twenty ounces of blood withdrawn. Remedies before inefficient now acted, and after two and a half months the patient was out walking, and at a later date the dulness in the nipple line measured but four and a half inches.

My own method possesses the following distinct advantages over that advocated by Dr. Harley:

In the first place, where ascites coexists, a simultaneous complete evacuation of the fluid is made through the incision. This cannot be secured by tapping high up in the hypochondrium.

Again, diagnosis, often uncertain as to the exact nature of the disease, and always conjectural as to its extent, is made precise by touch and inspection. Implication of neighboring organs is also detected at the same time.

Thirdly, in those cases in which there is a prospect of relief from tapping the liver for blood, the procedure is conducted with a degree of safety and certainty otherwise unattainable. Under full direction of eyes, and fingers grasping the organ, the trocar

is guided to the elected spot and the blood withdrawn.

Fourthly, any tendency to ooze after withdrawal of the catheter is at once noticed and checked, either by catching up the lips of the puncture in a suture, or plugging the opening with strands of gut. The amount of blood drawn will vary with the plethoric condition of either patient or liver, and where sufficient is withdrawn to make a decided impression, persistent oozing will hardly occur.

Lastly, all those cases which Dr. Harley has shown may be best treated by multiple puncture to relieve a compressed organ, will, without doubt, be better treated by free *incisions* through the capsule. In puncturing from without it is impossible to say that the trocar has pierced the capsule and gone no deeper, while under control of eyes and fingers free slits may be safely made, extending several inches on the surface, and numerous enough to be *seen* to produce the desired effect.

The points of election for the incision in the abdominal wall are the right hypochondrium, parallel to the lower border of the liver, or the median line above the umbilicus. Thin walls are readily closed by one set of sutures including everything from skin to peritoneum. Fat walls are best closed by including the peritoneum and subperitoneal fat in a separate series of buried gut sutures.

I am aware, in closing, that there is much obscurity in the diagnosis and pathology of diseases of this class, that while we might rationally hope for relief by free depletion in cases of chronic congestion, in enlargement due to cirrhotic process the chances are against the possibility of arrest even by free depletion. Clinically, however, distinctions are not so clearly made, and even in hypertrophic cirrhosis, in

the absence of an exacter knowledge of the true essence of the disease, its primary cause and *modus operandi*, we cannot predict what result might follow a method calculated to produce a local impression so powerful as this. Dr. Harley's successful case, with the favorable results reported in the other instances, gives us good ground for hope and warrants a further trial.

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