ON THE VALUE OF EARLY AND REPEATED PARACENTESIS IN THE ASCITES DUE TO CIRRHOSIS OF THE LIVER.*

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THE following case appears to me of sufficient interest to bring before your notice, especially as the treatment of the ascites due to cirrhosis of the liver, by early and repeated tapping, does not (I imagine) receive the attention it deserves from the general practitioner; nor is it advocated in our standard medical works on the subject—with, however (as I shall point out later on), two notable exceptions.

The patient was Mr. M., aged 46, a retired naval officer. *Family History.* His father died of cancer of the stomach, aged 49; his mother died from bronchitis, aged 71; one sister died of paralysis, aged 48, and another of consumption, aged 18.

Previous History. He had had measles, scarlet fever, and whooping-cough. He went to sea when ten years old. In 1852-3, he served in the Burmese war, where he received seven wounds; besides which, he suffered from cholera, dysentery, and slight sunstroke. In 1854, he went to the Crimea, and served all through the war, having ague and Crimean fever. In 1857, he had another attack of sunstroke whilst in Bombay. In 1862, he had a sharp attack of fever and ague. In 1874, he had another sunstroke; after which, he left the sea. He had always been a very moderate drinker, taking, on an average, one or two glasses of rum daily. He never had jaundice, piles, or morning sickness. In 1875, he had an attack of pleurisy on the left side. During 1876 and 1877, he suffered intensely from neuralgia and sciatica, during which time he took from half a pint to one pint of brandy daily, to enable him to bear the pain.

His *present illness* began, in the early part of 1879, with a cough, morning sickness, anorexia, and general debility. About the end of March, he noticed that his belly began to swell; and, on making an examination, fluid was detected in his peritoneal cavity. The liver-dulness extended from the sixth rib to a little below the margin of the ribs. On the left side, the spleen extended down to the level of the umbilicus, and anteriorly to within an inch of the median line. The patient said his spleen had been large since the last attack of ague in 1862. The ascitic fluid gradually accumulated until May 3rd, when paracentesis was performed with the usual trocar and cannula, and seventeen pints of straw-coloured serum were removed. Previously to the operation, there had been no dyspnoea nor œdema of the legs, and but little discomfort. No bad result followed.

May 14th. Paracentesis was again performed; this time with Southey's trocar and cannula. The fluid continued to flow for eight hours, and amounted altogether to twenty pints.

May 24th. He was again tapped; and, after six and a half hours, sixteen pints had escaped. After this, the fluid did not reaccumulate so rapidly, and tapping was not again had recourse to until August 11th, when, after seven hours, fifteen pints were removed. On September 11th, he was again tapped; and only three pints were removed. After the operation, a slight attack of peritonitis ensued, but soon subsided under the use of morphia. On September 25th, he was again tapped, but only one pint was removed, as the patient felt very faint. On October 3rd, eight pints were removed; slight peritonitis followed. On October 14th, five pints were removed in five hours. He had severe pain in the back; the feet and legs were puffy for the first time. On November 9th, three pints were removed in four hours; on the 25th, six pints in four and a half hours; and on December 6th, six pints were removed with a large trocar. Much weakness followed, with some peritonitis and a troublesome cough. Some fluid was detected in both pleuræ. The feet and legs were much puffed. On December 21st, four pints were removed in nine hours; on January 2nd, 1880, ten pints in seven hours; on the 21st, eighteen pints in seven and a half hours; and on February 9th, nine pints in eight hours. From this date, I took charge of the patient, who, from the commencement of his illness to the present time, had been attended by my brother, Dr. P. T. Duncan (now of Putney), to whom is due all the credit of the successful treatment adopted. On March 14th, eight pints were removed in four and a half hours; and on April 6th, six pints in seven hours. On April 24th, tapping was again required; but no result followed insertion of the needle in the median line, probably because the peritonitis, which followed some of the previous tapplings, had caused adhesions at this part. The needle was reinserted about midway between the median line and the anterior su-

perior spine of the right ilium, when eight pints were drawn off in six hours. From this time, the patient began to improve—so that paracentesis was not again performed until May 23rd, when three pints were removed in five hours. On May 26th, the patient was out of bed and dressed in his ordinary attire—the first time for six months. On June 6th, three pints were removed in four hours. On June 26th, he had continued to improve since the last tapping. On July 31st, he was sent to the seaside, where he remained two months; and, on his return, was able to walk to my house and report himself.

November 30th. He continued to improve and gain flesh, and went out walking daily. There was no fluid in the peritoneal cavity. The liver-dulness extended two and three-quarter inches in the right nipple line.

March 10th, 1881. I have seen the patient this morning, and find him still improving; no reaccumulation of ascitic fluid; the only complaint being of troublesome constipation.

REMARKS.—The general treatment (to which the patient willingly submitted) has been the absolute withdrawal of alcohol. At first, purgative doses of compound jalap-powder, with diuretic pills of mercury, squills, and digitalis, were tried; but were not persevered with, as they had no effect on the ascites. After paracentesis was commenced, a saline aperient of the sulphates of soda and magnesia was given every morning, and occasionally ether mixtures, to relieve the flatulent distension, which was at times distressing.

I will now, with your permission, give the opinions of some of the best authorities on the subject of this paper.

Dr. Aitken says: "Ascites depending on diseased structure of the liver is rarely recovered from, unless the primary disease be cured." (*Science and Practice of Medicine*, vol. ii, page 1036.) "In this form of dropsy, the peritoneum becomes more impaired in its power to absorb the fluid than in most of the others; the fluid is, therefore, seldom reduced, and the patient generally requires the last imperfect resource of our art—viz., tapping, or paracentesis." (Sixth edition, vol. ii, page 1037.)

Dr. Bristowe (*Reynolds's System of Medicine*, vol. iii, page 268) says: "But when the abdomen has become very much distended, and the patient is suffering seriously from the inconvenience and distress which attend such distension, the removal of the dropsical fluid by paracentesis becomes necessary. The time for the performance of this operation must be determined by each case—less by the actual distension of the belly, than by the gravity of the symptoms which attend that distension. The operation is generally postponed as long as possible, and I believe rightly. . . . It is generally a harmless operation; but sometimes peritonitis ensues, and is apt to be rapidly fatal."

Niemeyer (*Medicine*, vol. i, page 622), after discountenancing diuretics and advocating drastic purgatives, says: "The operation of tapping is almost always free from danger, and it removes the fluid from the abdomen more certainly than any other method of treatment. But, the more the slight danger and certain effect of tapping speak in its favour, the more necessary it becomes to enumerate its bad subsequent results. We should never forget that we do not remove water, but an albuminous fluid, from the abdomen; and that the fluid evacuated is almost always soon replaced by a new effusion. This is a severe tax on the patient's strength and supply of blood. Daily experience teaches that, after the first tapping, emaciation progresses much more rapidly than previously. From what has been said, it follows that, in ascites, the abdomen should only be tapped where life is immediately endangered by obstruction of the respiration, or by threatened gangrene of the skin."

Frerichs (*Diseases of the Liver*, vol. ii, page 95) says: "When the ascites is so extensive that the respiration is impeded, and the meteorism very troublesome, the best plan is to remove the fluid by paracentesis. This operation is rarely dangerous from the supervention of peritonitis (which I have only seen ensue in two cases); but it *must not* be repeated unnecessarily, because the exhaustion is, of course, increased by the rapid return of the effusion, and the remarkable loss of albuminous substances. Hence paracentesis should only be had recourse to as a matter of necessity."

Thierfelder, in Ziemssen's *Cyclopædia* (page 210, vol. ix), after deprecating the use of drastic cathartics, says: "It results, therefore, that, in the operation of paracentesis, we possess the means of lessening, with greater certainty and promptness, serous accumulations within the abdominal cavity, the judicious use of which is not commonly attended with any direct danger; the wound thereby inflicted gives rise relatively quite seldom to erysipelas of the abdominal integument, or to peritonitis. The functions of the stomach and intestinal canal are even wont to be improved after puncture; while, with the removal of the pressure previously exerted by the mass of ascitic fluid, and by the tension of the distended abdominal integument upon the vessels of the intestinal serosa, there results a decided filling up of the latter, accompanied by a diminution of the

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venous hyperæmia in the remaining coats of the intestinal wall. But, there again ensues also, from the more completely filled peritoneal vessels, when the obstruction to the hepatic circulation continues, a more copious transudation, and an increased loss on the part of the blood—of its plasma, rich in albumen. This offers an explanation why tapping affords invariably, but transitory, amelioration; and why, notwithstanding the improvement which in many respects is thereby induced, it cannot arrest the progress of the general impairment of the nutritive functions. This operation, therefore, must not be undertaken unnecessarily, but only in response to an urgent indication. Such an indication is offered when the dyspnœa, from upward displacement of the diaphragm, threatens life, or when an obstinate vomiting is probably attributable to mechanical derangement of the digestive canal, due to the large amount of ascites; if, under these circumstances alone, we resort to paracentesis, it will accomplish all that can be expected from any symptomatic treatment."

We see, then, that these five eminent authorities consider that paracentesis should only be performed as a *dernier ressort*.

The two exceptions to which I alluded are my much lamented teacher, Dr. Murchison, and Dr. Roberts of University College Hospital.

Dr. Murchison (*Diseases of the Liver*, second edition, page 288), says: "The operation, when delayed until the last, is often followed by rapid sinking, with typhoid symptoms.....The advantages of early tapping are these. First, by removal of pressure, the establishment of collateral circulation through the more healthy portions of the liver itself, as well as the veins of the abdominal parietes, is promoted. Secondly: the functions of important parts, which had been impaired or arrested by the pressure, are restored. Not only are the lungs relieved; but, by the removal of pressure from the portal and renal veins, assimilation and the secretion of urine are increased. Thirdly: diuretic and other remedies, which, when the abdomen is full of fluid, have produced no effect, probably from not being absorbed, will often (after paracentesis) act powerfully, and thus retard or prevent the accumulation of fluid in the peritoneum. As soon, therefore, as the abdomen becomes moderately distended with fluid, I would recommend you to lose no time in having recourse to paracentesis. Even should the fluid reaccumulate repeatedly, you need not despair."

Lastly: Dr. Roberts, when speaking of the treatment of dropsy, says: "There is one class of cases in which paracentesis may not uncommonly be performed as a curative measure, as far as the ascites is concerned—namely, when it is dependent on cirrhosis of the liver. In such cases, I have for some years had recourse to repeated paracentesis, as a systematic method of treatment, the fluid being taken away again and again, should it reaccumulate; and the results have been most satisfactory—due care being, of course, exercised in the performance of the operation, and in the subsequent management of the case."

GOUT AS A TROPHO-NEUROSIS.

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DR. DYCE DUCKWORTH's article in the JOURNAL of March 26th, on Gout considered as a Tropho-neurosis, will have been read with interest by all who are dissatisfied with the current explanation of the cause of that disease; but I think there will be many who, although glad to accept the suggestion as to the part taken by trophic nerves in producing the attack, will hesitate to follow him in considering nerve-influence the first cause in regard to time, and will be rather inclined to retain the belief that uric acid is the cause, and that trophic nerve-disturbance is the mode by which the symptoms are produced.

The sudden invasion, the occasional rapid retrogression, the perfect recovery and absence of permanent organic change even after the most acute early attacks, its alternation with various neuroses, such as neuralgia, asthma, and angina pectoris, and its obvious production by shock, worry, and other nerve-depressants, all suggest its connection with nerve-influence; and, now that recent researches have shown that perverted action of trophic nerves may, by itself, lead to inflammation and destruction of joints, the link seems to have been found by which gout and the gouty neuroses may be connected together; so that, instead of looking at them as alternating conditions, we may consider them all alike as various neurotic expressions of a state of system which we have to describe by the term "gouty."

But the suggestion that this gouty habit is itself a neurosis—that the lithæmia is to be looked at as the result of a still earlier alteration of some hypothetical trophic centre—is one which will not very readily be accepted. It is difficult to understand why an affection of one trophic centre should produce both lithæmia and arthropathy, and that it should be often associated with a varying series of other neuroses,

if it were itself the primary lesion; but, if we accept the proposition that the perverted action of the trophic centre which produces gout is due to its being poisoned by blood containing uric acid, just as it is admitted that the other neuroses are due to poisoning of their centres by the same cause, we have a fair working hypothesis, and can put into form many facts which have hitherto appeared somewhat unconnected.

Men vary greatly in the manner in which they perform their tissue-metamorphoses, and in the ease with which they get rid of their nitrogenous excreta, and hence in the readiness with which they become the subjects of lithæmia. The nervous system of different individuals, and even of the same person at different times, also varies much in its power of resisting toxic influence. All men are not made drunk by the same quantity of alcohol, nor do they all show its effects in the same way. So it is with lead, with tobacco, and many other poisons; and so, I think, it is with uric acid. One nervous system is so resistive that it requires high feeding and a sedentary life to produce a dose large enough to lead to symptoms. Another is so susceptible that a single incautious meal will produce an attack; and this attack will vary according to the nerve-centre affected. It may be asthma, angina, or neuralgia; or, if it affect certain trophic nerves, it may show itself as herpes, or as that inflammation of joint-structures which we have always hitherto called gout, but which we may in future have to describe as lithæmic arthropathy. By a theory such as this, giving a due value to both the toxic and the neural factors in the production of gout, we are able, I think, to explain more fully its varied phenomena, and its connection with other morbid conditions, than by attributing its causation entirely either to nerve or to uric acid.

CRIMINAL ABORTION: A FŒTUS OF THREE MONTHS CUT UP WHILE IN THE UTERUS: PERITONITIS: RECOVERY.

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A FINE young woman, aged 19, consulted a Cambridge chemist named Ransome, and his wife, a professed midwife, and took medicines with intent to produce abortion, but without the desired effect. On Sunday, December 5th, 1880, she was induced by the Ransomes to submit to an operation at the hands of a man named Lepper, who came from London. After payment of £10, he passed up "a silver hook", which "hurt her very much", and blood came away. No witnesses were present. Another similar operation was performed a few hours later, causing great pain, and some loss of blood. On both occasions, she walked a distance of more than a mile to the chemist's shop where the operation was performed.

On the following day, December 6th, I saw her. She had great pain in the abdomen, which was very tender and tympanitic; constant vomiting and retching; pulse 120; temperature 102.5°; with other signs of peritonitis. The os uteri was small, within easy reach of the finger. Blood passed in small quantities.

On December 7th, the symptoms were very urgent, and Professor Humphry saw the case with me. In the evening, parts of a fœtus passed from her, consisting of the extremities and trunk; the head came away an hour or so afterwards. There was no decomposition; the skin was rosy and firm. The legs were separated from the trunk and upper extremities, and the head severed from the body. The fœtus was about three months old; the head was large; there were indications of the eyelids; the membrana pupillaris was visible; the mouth was open, showing the tongue. The toes and fingers were nearly separate; nails were commencing. The cartilaginous arches of the upper dorsal vertebræ were closed.

On December 8th, there was no improvement in her condition. Vomiting and retching continued as before. Pulse 124; temperature 100.5°. Dr. Humphry again saw her, and removed the placenta.

December 9th. Pain was very severe. Vomiting and retching continued. The abdomen was tender and tympanitic. Pulse 120; temperature 101.5°. She had great pain in the right elbow and forearm.

December 11th. She was so very ill that, by my advice, her depositions were taken by the magistrates.

December 14th. The symptoms had continued, without any improvement. A red flush, like erysipelas, appeared about the umbilical scar of the swollen abdomen.

December 15th. She kept down a little milk and port wine. The redness was spreading over the abdomen.

December 16th. The symptoms were as before; hiccupping was troublesome; loose stools, with very foul smell, passed from her. There was rather less distension of the abdomen.