ACUTE HÆMORRHAGIC ASCITES.

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I HAVE elected to present the following case to the Medical rather than to the Pathological Section of the Royal Academy of Medicine, as the interest lies in its clinical quite as much as in its pathological aspect, and for the same reason I have designated it under the title of "hæmorrhagic ascites," as embodying its most prominent and, indeed for some weeks, its sole characteristic.

It is the only case I have met with, or heard of, in which effusion of sero-sanguinolent fluid in the peritoneal cavity was so copious as to necessitate tapping, and in which this necessity became so often imperative, and at such short intervals, if life was to be prolonged.

Mr. G., aged forty-two, married, of a healthy, clear complexion, a full build, weighing over 14 stones, came under my care on Sept. 30, 1897, on the recommendation of Thomas Parr, M.D., of Drogheda, complaining of gastric symptoms, a sense of fulness and hardness in the epigastrium, with a feeling of soreness.

His history pointed to an active life and habits. In May last he rode 40-50 miles on his bicycle, and up to the time of his visit he rode 10-15 miles many days, and was able to walk and shoot. Indeed, in the interval of ten days which followed his visit to me, he went out partridge-shooting, and walked about eight miles over the country, although he found some difficulty in crossing the fences and ditches, and experienced pain in the epigastrium on jumping.

His habits were temperate and he lived a regular life, his only complaint being asthma, which was brought on by dust or flour, and which was immediately relieved by going out yachting.

The earliest hint of not being quite well was a sudden sickening pain and faint feeling which he experienced about two months ago, when a friend in conversation, in order to point his remarks, poked him slightly in the epigastrium with his finger; and, again, when his pet setter dog touched him in the same place with his paw to call his attention during meals to his—the dog's—wants. These slight shocks made my patient quite sick and faint. His appetite was good, and he was, both before and after he came under my care, able to eat meat, game, fish, and fruit and vegetables; and even on the day preceding his death he partook of oysters, and grouse and fruit. He experienced discomfort only from flatulency after vegetables, and if the bowels were confined. There never was vomiting or diarrhœa, or jaundice; and no blood was ever present in the alvine discharges.

When first seen his abdomen was noticeably enlarged, and was tense with ascitic fluid, and measured 43 inches above and at the umbilicus.

At his second visit, a fortnight later, his abdomen was still more tense, and measured 45 inches, while his body-weight had gone up from 14 st. 2 lbs. to 14 st. 7 lbs.

As the abdominal walls were tense as well as well covered with fat, it was not possible to palpate the organs. Percussion elicited dulness in both flanks and in the hypogastrium. On placing the patient on the left side the right flank became clear, but on reversing this position the left flank and side, when uppermost, did not give a clear note, and the dull note tended to pass up towards the spleen. Liver dulness was not increased; if anything its area was diminished.

It was now decided to relieve the distress by tapping, and on Oct. 11th 100 fluid ounces were withdrawn by siphon tube. The moment the trocar was introduced the fluid gushed out—an evidence of the great pressure it was subjected to. To Dr. Parr's and my surprise the colour of the fluid was that of blood, its resemblance to it being exact, except that it was of a slightly maroon shade. The sp. gr. of the fluid was 1025, and on standing a soft blood-stained sediment to about one-tenth or one-eighth of the volume was formed.

It was thought at the moment of the first tapping that some blood vessel had been punctured by the trocar, but this was negatived by the even flow of equally stained fluid to the end of the operation. Under the circumstances it was thought best not to drain the

cavity completely, so the trocar was withdrawn when 100 ozs. had flowed off. The measurements of the abdomen after tapping were 42 inches at the epigastrium and 43 at the umbilicus. After removal of the liquid careful examination failed to make out any tumour anywhere, or any enlargement of, or inequality on, the surface of the liver. It was noticed, however, that while the greater part of the abdomen gave a clear percussion note, the left side from the costal arch down to near Poupart's ligament remained comparatively dull.

As the fluid drained off the patient complained of soreness to the right of the puncture, and after the tapping, as before it, of a tenderness in the epigastrium on palpation or slight percussion.

It was hoped that the relief which the tapping gave would be followed by increased activity of the kidneys, and saline cathartics and diuretics were administered with a view to encouraging the urinary secretion and absorbing the ascitic fluid.

Disappointment, however, awaited us on both these points, as the urine never exceeded a pint in the 24 hours during the subsequent course of the case, the average quantity being 13 ozs., and the ascites rapidly reformed. The urine was bright and clear when passed, sp. gr. 1025, free from sugar or albumen, and on standing deposited a heavy sediment of light-coloured lithates.

On Oct. 17th I had the advantage of Dr. Purser's opinion, and, though the ascites was rapidly reforming, we advised the postponement of tapping as long as was practicable.

It could not, however, be delayed beyond October 20th—nine days from the former tapping—as the want of sleep, the breathlessness and general distress, made it imperative. On this occasion 212 fluid ounces were withdrawn by siphon tube, and it was allowed to issue as long as it would. The nature of the fluid was identical with that of the first paracentesis. Dr. Purser kindly examined the blood-stained ascitic fluid, and failed to find anything in it beyond blood corpuscles and a few large spheroidal cells common to serous membranes. The patient felt well and in excellent spirits for a few days after each tapping; he enjoyed his meals, and went out for a drive in a carriage with easy springs, or in the electric tram to Blackrock or Kingstown—any jolting over rough ground causing abdominal pain. The pulse was usually quiet (about 90), and the temperature about normal, though in the majority of observations it lay between 97° and 98°. It touched 99° on but three evenings, and rose to 100° on the day of his death. The

suspicion that the ascites was due to malignant disease and not to cirrhosis was now becoming more confirmed, while another feature, pointing in the same direction, should be mentioned—viz., after each tapping it was noticeable that the upper measurement of the abdomen was not so reduced as at the level of the umbilicus, and that the shape of the abdomen never much altered all through the course of his illness, and tapping made no difference in it. As the patient lay on his back the abdomen protruded forwards, while in the lateral directions, in contrast to what is usually the case in ascites from cirrhosis of the liver, there was no bulging of the flanks, nor was there any protrusion of the umbilicus. When very tense a few veins were visible, ramifying on the abdominal parietes, and œdema of the feet and front of the tibiæ would appear, and, later on, œdema of the scrotum and penis. These evidences of pressure became less after tapping. After the full drainage of the peritoneal cavity on 20th, the measurements were $40\frac{1}{2}$ and 41 inches; but on 24th they rose again to 42 and 45 inches.

The second paracentesis of the 20th was followed by a third on the 24th, when 184 fluid ounces were withdrawn, and, five days later, on the 29th, by a fourth tapping, which produced 274 fluid ounces. Thus, 790 ozs., or $38\frac{1}{2}$ pints, were evacuated within 18 days.

The drain of this enormous quantity of sero-sanguineous fluid showed its effects by causing considerable weakness, a continued acceleration of the pulse, and dropsy of the feet and legs, which, though increased when the ascites was well marked, never disappeared after the third tapping.

The colour of the face and lips was wonderfully little altered up to this date, but pallor and a somewhat pinched look set in soon afterwards.

As each tapping gave but temporary relief to the more urgent symptoms of breathlessness on exertion, want of sleep, and nausea and sickness after food, it was determined to postpone the next tapping as long as possible, an opinion in which Dr. Little, who saw him with us on Nov. 1, 1897, quite concurred.

It became evident, however, on Nov. 5, five days later, that the heart was labouring very much on account of the diaphragm being pressed up, and the pulse became very quick, thready and irregular. The patient was clamouring for relief, and we felt that if life was to be prolonged for even 24 hours the fluid must be let out. Dr. Ball was, therefore, called in late at night, and removed 261 ozs., and the patient experienced some but not at all the usual

amount of relief and bodily ease which paracentesis invariably had given him on former occasions. The heart, moreover, did not get slower, and it was apparent the vital powers of the patient were ebbing fast, and he died 40 hours afterwards by gradual failure of the circulation, and increasing coldness of the extremities, the mind being clear up to four hours before death, which occurred on Nov. 7th.

Even in the short time preceding death after the last tapping the abdomen again filled fast, and contained a couple of quarts when the autopsy was made on the 7th. Exclusive of this amount, so found, 1,031 fluid ounces—*i.e.*, $51\frac{1}{2}$ pints, or $6\frac{1}{2}$ gallons—were withdrawn in less than four weeks from the time the first tapping was practised on October 11th.

Approached from the clinical side, this case was one of no little difficulty in the matter of diagnosis, and presented many features of peculiar interest.

The presence of ascites in a man of the age of forty, who was not a total abstainer, and who at times, and on festive occasions, indulged in wine and spirits, and in whom neither cardiac nor renal disease was present, might be set down, as a general rule, to cirrhosis of the liver; and, at first, this was the diagnosis. The deep blood-stained fluid which flowed on the first paracentesis made that diagnosis doubtful, and this doubt was increased by the same coloured fluid being removed on a second tapping; and yet, on the other hand, the very rapidity with which the abdomen refilled, the large quantity of fluid which reformed in a few days, the absence of all tumours, which had been most carefully searched for after the emptying of the peritoneal cavity, and the apparent diminution in the area of hepatic dulness examined under similar circumstances, taken with the low specific gravity of the ascitic fluid, gave probability to the view that portal obstruction might still prove to be the cause. To explain the bloody character of the fluid was not easy, and the hypothesis was suggested that the bleeding occurred from a traumatic rupture of some vessels

in the mesentery or the omentum, which might have occurred in the first week of October while the patient was out shooting. In favour of such a possibility, inquiry had elicited the fact that, owing to the size and weight of the abdomen, the patient, who weighed over fourteen stone, found it hard to cross the ditches and fences, that it "hurt him in his stomach" if he jumped, and a bystander observed on one occasion that he fell, or rolled over on his abdomen, in attempting to cross a fence.

The points which made the diagnosis of cirrhosis doubtful from the first were the absence, prior to the dropsy, of gastric disturbances, such as sick stomach, dislike to food, and coated tongue; of varices on the nose; of bleeding from piles; enlargement of the spleen, hæmatemesis or melæna; and the healthy and well-nourished condition of the patient, with a cheery, bright disposition and a good appetite, which continued up to a week before his death. Another and a very significant symptom which negatived liver degeneration was the absence in the urine of biliary pigments or the purpurates, and the presence of amorphous urates in large quantities.

The absence of constitutional disturbance, fever of the hectic type, dryness of the tongue, and diarrhoeal attacks excluded phlebitis of the vena portæ, tubercular disease, or perihepatitis; while the absence of glandular enlargement in the groins and neck, of disease in the rectum, and of any distinct tumour in the abdomen negatived the probability of a new growth in or under the liver causing obstruction of the vena portæ by its pressure.

There was also a point in the physical examination which was difficult of solution, and that was the unequal range of percussion dulness over the abdomen all through the course of the case. Instead of the flanks and iliac regions, as the patient lay on his back with the shoulders

slightly raised, presenting an equally dull note, changing to the dependent side on change of position, in this case the right loin and iliac region were comparatively resonant and the left dull on percussion, and this dulness extended up towards the left hypochondrium in the mammary line, and did not change on turning the patient on his right side.

Having thus discussed the features of the case from a clinical point of view, I may say that each tapping after the first made us more sure that the cause of the dropsy was not the usual one of hepatic cirrhosis.

Although we had never met a similar case, nor could call one to mind, we were more and more inclined to the idea that it was a case of malignant disease involving the peritoneum, either the transverse mesocolon or the omentum.

The *post-mortem* examination was conducted under very great difficulties on the day following death, when I had the valued assistance of Dr. Purser. On making the primary incision, the parietes were covered with a considerable layer of fat, and the places where the several tapplings were made were quite healed up with healthy cicatrices. A large quantity, about two quarts, of deep blood-stained fluid escaped—of the same nature apparently as that removed by tapping, but along with it a number of deeply pigmented shreds of soft consistence. The intestines were mostly lying towards the right side, and the omentum occupied the front and left side of the exposed parts, extending exactly to the seat of puncture in the middle line and to the iliac spine on the left side. It formed a thick mass, gradually shelving from $1\frac{1}{2}$ inches thick at its attachment above to $\frac{1}{4}$ inch at its free border. It was solid and firm, but its consistence was such that it broke down on handling, while blood seemed to ooze from every part. The reflected part over the transverse colon was

similarly involved, but the bowel itself was unaffected and bulged rather forward near the hepatic flexure, and probably caused the fulness in that region, which suggested the idea to some of those who examined the patient during life that there might be a tumour below the liver. It also accounted for the clear resonant note across the epigastrium, which was constantly present. The liver was with difficulty brought to view, as the inflated condition of the colon and the great thickening of the omentum and mesocolon pressed it back towards the spine. The organ was normal in size, its surface smooth, and its edges of natural consistence. Without a much more complete examination than we were enabled to make, it was not possible to see whether the vena portæ was compressed in the fissure of the liver, but nothing could be felt of the nature of a tumour there, and we considered that the enormous vascularity of the new growth, which extended back to the spine and involved the inferior mesenteric and other veins, was quite sufficient to explain the copious serous and sero-sanguinolent exudation which had taken place. Scattered over the intestines, in isolated spots, and on the parietal peritoneum above the pubes, were seen a number of secondary growths—some the size and colour of drops of tallow or fat, others larger—without surrounding vascularity; they were readily detachable, and did not leave a broken surface. The spleen was very slightly enlarged.

Dr. Purser, who has kindly examined a portion of the omentum, considers the growth to be of "a sarcomatous nature, although the structure varies a good deal. The great number of newly-formed, very thin-walled vessels is interesting; also the abundant growth of cells from the walls of the vessels. Indeed the tumour seems chiefly to grow from the vessel wall." It is, doubtless, to this vascularity that the exudation of blood took place, and also the

effusion of the large quantity of serum which so rapidly refilled the peritoneum after tapping.

Remarks.—That hæmorrhagic ascites must be a most rare occurrence will probably be conceded by most of my hearers, as neither any of my medical *confreres* with whom I have consulted nor I myself, had ever seen or heard of such a case. It was not, however, until I looked up the literature of the subject in the Library of the Royal College of Physicians that its rarity was fully impressed upon me.

I investigated a search under the heading of “Ascites” in both scientific studies of the subject and clinical records; again under the head of “pathological diseases of the peritoneum”—and I included all kinds of malignant disease—cancer and sarcoma of the abdominal cavity, its walls or its contents—in any of which this symptom (hæmorrhagic ascites) was mentioned or referred to.

The results were largely negative. For instance, there is no case of peritoneal cancer or sarcoma recorded in the Transactions of the Pathological Society of London up to 1897, or of its older sister in this city.

Braithwaite’s “Retrospect,” from 1860–1897 inclusive, and the *London Medical Record* (1873–90) are silent on the subject. In the Index Catalogue but two references are given under the heading of ascites, viz.:—Thaon, L., *Note sur un cas d’ascite hémorrhagique* (Nice Med., 1877, I., p. 198), and Bessirard (L. E. A.) *Etude clinique sur l’ascite hémorrhagique*, quarto, Paris, 1882 (unfortunately I had not the means of referring to the original papers); while under the heading of “Diseases of the Peritoneum” there is no reference made to this prominent symptom.

In the *Archives gén. de Méd.*, 1877, C. Méhu, in a paper entitled “A Study of Pathological Liquids in the Cavity of the Peritoneum,” briefly refers to a case of bloody ascites in cancer of the abdominal walls, in which paracentesis was

practised. In eleven days a second puncture became necessary, when the fluid removed was almost free from blood. Méhu, in speaking of the diagnosis of cancerous tumours in the abdomen, considers a notable quantity of blood in the ascitic fluid as a strong indication of such a pathological condition, but he adds the cautious qualification, that although a most grave prognosis is justifiable in the presence of such bleeding, the blood effusion may be found after death to be due to quite another cause.

Naturally my researches included the standard works of von Ziemssen's "Encyclopædia of Medicine," Trousseau's "Clinical Lectures," and Niemeyer's "Practice of Medicine," but with the same negative result.

In Fagge's "Principles and Practice of Medicine," p. 479, ascites is stated to be the most frequent symptom, and the most marked effect, of malignant disease of the peritoneum, and yet its hæmorrhagic nature is not mentioned.

My researches through the *Lancet*, *Brit. Med. Journal*, and *Medical Times and Gazette* met with little further success, as only a very few cases of hæmorrhagic ascites are reported. To these I shall allude briefly, as they show considerable diversity in the pathological conditions present, as well as in the amount and nature of the ascites.

Dr. Woodhouse^a records a case of a man aged sixty-four who presented an emaciated, cachectic appearance, and whose abdomen was greatly distended with fluid. Fluctuation was readily detected, although the parietes were tense. There were no varicose veins visible. The urine was very scanty and thick with urates but free from albumen or bile. Vomiting was the most distressing symptom, and the patient died of exhaustion in two months. The abdomen was found to contain three gallons of sanguineous serum. The peritoneum was yellow and thick, with the omentum

^a *Lancet*. Vol. 2. 1861. P 230.

converted into a solid hard cake. The pylorus was narrowed, and the transverse colon was constricted by a band.

The disease, which Dr. Bristowe declared to be a colloid cancer, began in the peritoneum and extended into the intestines.

Dr. Birkett,^a at the Newcastle Pathological Society, exhibited a case of gelatiniform cancer of the omentum, in which the latter was upwards of three inches thick, occurring in an old gentleman. The prominent symptoms were marasmus, ascites (though the nature and amount were not mentioned), and great abdominal suffering, which preceded and quickly caused death.

In bold contrast with the foregoing I would refer to another case of cancer of the omentum.

Dr. B. Fenwick^b showed a specimen of carcinoma of the omentum—where it was $1\frac{3}{4}$ inches thick—hard and firm, but in which all the pelvic contents were matted together in scirrhus and fibrous tissue, but there was a complete absence of dropsy except in the left pleura.

Dr. Matthews Duncan^c discusses the difficulty of the diagnosis of ascites due to malignant disease in the abdomen and in relation to ovarian disease; and gives the notes of a case—a woman, aged forty-two—in which 130 oz. of a bright red colour was drawn off, and in 18 days 70 oz. more were removed, and where the dulness on percussion was much the same after tapping as before; on exploration of the abdomen a number of soft nodules flowed out, and cancer of the uterus and ovary was found to be present.

These few references, which were all my diligent research could provide, alike speak of the paucity of the published cases, of the want of agreement in the pro-

^a Med. Times. Vol. 2. 1852.

^b Trans. Path. Soc. Lond. 1882.

^c Med. Times. Vol. 2. 1872. P. 432.

minent symptoms, and of the very general presence of solid tumours in intra-peritoneal malignant disease.

It will be readily acknowledged that the greatest difficulty in diagnosis arises in those very cases where tumours cannot be detected. I shall now conclude this paper with short quotations from the writings of the few authors who have discussed the question.

Dr. Samuel Fenwick* has dealt with the subject more fully and exhaustively than any other writer, so far as I am aware. Under the heading of "Soft Cancer of the Peritoneum" he remarks on the presence of ascites in every case sooner or later, and that the character of the fluid was bloody in all but one of his collected cases, and he states from his experience—"Blood-stained serum is more commonly met with in this than in any other form of malignant disease affecting the peritoneum."

Tumours are necessarily always present, but in two instances they were not discovered during life, and in some others they were found only after the fluid had been removed by tapping.

"The amount of the ascitic fluid in miliary carcinoma of the peritoneum is always sufficient for recognition by ordinary physical examination," but in alluding to the difficulties of diagnosis he states—what was certainly not borne out by my case—that "ascites is less in quantity in cancer of the peritoneum than in cirrhosis of the liver; it is not so quickly reproduced after tapping, and it more often is followed by a rise of temperature and other symptoms indicating inflammation of the peritoneum."

Dr. Stokes was in the habit of teaching as characteristic of visceral cancer two main signs—(1) varicosity of the superficial veins over the abdomen; and (2) the presence of a small, though persistent, amount of ascites.

* Clinical Lectures on Obscure Diseases of the Abdomen. P. 212. 1889.

Our acceptance of diagnostic *dicta* such as the foregoing must, therefore, be guarded and modified by the occurrence of cases like that of Mr. G.

Dr. Fenwick speaks also of miliary carcinoma occurring in an acute form, and mentions its being sudden in three instances, while supposed to be in robust health. He remarked that "its duration may be short—six weeks to four months.

Habershon,^a referring to abdominal cancer as a cause of ascites, writes :—" There is an instructive class of cases in which the peritoneum is especially diseased. The serous membrane is studded with tubercles, soft and vascular, and composed of cancer cells, the mesenteric glands, and omentum sometimes are infiltrated with inflammatory and cancer products, so that it becomes thickened, contracted, and hard. It probably begins in the subserous lymphatic vessels, and extends to the serous surfaces, and may spread by contact. There is in nearly all cases a large amount of serous fluid constituting ascites, and it is often discoloured by an admixture with blood"; and he adds, when speaking of the uselessness of treatment in such cases, that "if the fluid is sufficient greatly to distend the abdomen and to press upon the stomach, it may be well to draw it off, but there is great fear that exhaustion may rapidly supervene, and that a low form of peritonitis may be induced."

From this it is plain he never came across a case like mine in which paracentesis was *imperatively* required, and where the symptom of ascites was *the* most prominent and urgent one, and called for repeated tappings, and where the fluid withdrawn was *like* blood at every tapping. Moreover, the description of the pathological state of the omentum does not tally.

^a Diseases of the Abdomen. Pp. 685-6. 1883.

Dr. Fred. Roberts, as the most recent contributor, writing in "Quain's Dictionary of Medicine," 1894, on the subject of cancer of the peritoneum, states "that it is very rarely found as a primary disease, and equally rarely is it acute; the nature of the cancer in this membrane is generally scirrhus, but may be encephaloid, while the colloid variety is very common." Virchow believes the growth to be sarcomatous.

"The clinical symptoms are very variable and obscure. In some cases large dropsical effusions may be present, so as to interfere with the alimentary canal, and the fluid aspirated is bloody, while abdominal pain is commonly complained of, with tenderness here and there over its surface."

"The diagnosis rests largely upon (1) the presence of a growth, with great enlargement of the abdomen; (2) the percussion dulness does not change readily with change of posture; and (3) the existence of ascites without accumulation of fluid in the flanks or protrusion of the umbilicus."

A review of the cases referred to, and of the opinions of those who have devoted special attention to this subject, cannot fail to impress one with the great difficulties in arriving at an approximate, if not an accurate, diagnosis of peritoneal and omental cancer, and places it among the most difficult in the sphere of clinical medicine. For while the occurrence of sero-sanguineous ascites is doubtless strongly in favour of it, I have shown that similar effusions may occur in cancer of some of the abdominal organs—*e.g.*, the uterus; that cancer of the omentum may occur without ascites, or that if ascites be present it need not be bloody; that the presence of tumours, one or more, which may often be not recognised until after tapping, is a decided aid to diagnosis, but that in the

absence of this aid, where either no tumour exists, or where it is of the soft, diffused character involving a large portion of the omentum and meso-colon, but leaving the colon intact, such as happened in my case, an accurate diagnosis cannot be arrived at without ocular inspection, or tangible evidence as to the state of the peritoneum and the contents of the abdomen.

DR. LITTLE said he had never seen a case of ascites in which there was hæmorrhagic fluid. He had little doubt, however, as to the diagnosis, because they all knew that hæmorrhagic fluid drawn from the thoracic cavity almost invariably indicated a new growth in the thorax. Dr. Finny had drawn attention to one point which he (Dr. Little) wished to emphasise still more, as he thought it of great importance in diagnosis, and that was the character of the urine. He recollected a case of an old lady who was about to be tapped about which he and the President had differed somewhat. He (Dr. Little) caught sight of a vessel under the bed half full of perfectly clear urine, and he, therefore, ventured to say that she had not got cirrhosis of the liver. He then found, on tapping, abundant growths all through the abdomen. He thought that Murchison's observation, that they should always doubt the existence of cirrhosis of the liver unless they saw deeply pigmented urine, was worthy of consideration.