Clinical Remarks

ON A

CASE ILLUSTRATING LIABILITY TO ERROR IN DIAGNOSIS,

IN WHICH FREQUENT PAINFUL ATTACKS, PROBABLY OF BILIARY COLIC (REPUTED AS GASTRIC), OCCURRED DURING MORE THAN TWO YEARS IN CONNEXION WITH MITRAL VALVE DISEASE AND DILATED HEART, THE FATAL ISSUE BEING DETERMINED BY A SMALL CALCULUS LODGED IN THE DUODENAL ORIFICE OF THE COMMON DUCT. JAUNDICE PROBABLY ABSENT THROUGHOUT.

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GENTLEMEN,—I have to-day (May 26th, 1885) to bring under your notice a case interesting in more than one respect, but particularly as illustrating an oversight or omission (if not error) in diagnosis. Errors in diagnosis, if they are not the result of mere carelessness (in which case of course, they have no redeeming quality except as a lesson for the individual), ought always to convey some kind of instruction to good clinical students, and therefore ought to be more insisted on, if possible, than instances of very exact or very lucky guesses at truth. In this particular case the error or omission affects one part of the diagnosis only, and is certainly fraught with instruction, and with what is, to me at least, new and therefore valuable experience. This experience I shall now endeavour to convey to you fresh from its sources, and you shall judge for yourselves of its importance and practical significance. The case, I may mention, was repeatedly the subject of clinical remarks during last winter session, and perhaps some of those here present may have these in their note-books.

In the end of December last¹ we admitted into the Western Infirmary a woman, Mrs. G—, aged forty-six, evidently labouring under dilated and weak heart, with mitral regurgitation, and just possibly also (but not certainly) mitral stenosis. There is nothing more to be said as to this part of the case. The murmurs were so far characteristic—the one certain, the other all along doubtful. The corresponding conditions were found after death; the mitral valve thickened and fringed with lymph, certainly admitting of regurgitation, possibly—but by no means certainly—in a condition to give rise also at times to the direct murmur. In all this there is nothing new, and I shall not occupy your attention with it just now, though the details at the time were interesting enough, and the diagnosis here was exact to the last degree. Nor is there anything particularly novel about most of the sequelæ of the cardiac disease in this case. There was dropsy, varying in degree at different times; there was well-marked cyanosis, and a good deal of dyspnoea; there was enlarged and congested liver; a congested kidney also, yielding a urine mostly albuminous, and extremely variable as to quantity and specific gravity; the pulse was mostly feeble, sometimes irregular and frequent, always very disproportionate in volume and force to the heaving impulse of the dilated heart. With all these phenomena in cardiac cases you must be quite familiar, and as you have them not now under observation I merely thus enumerate them. But what struck me in this case as peculiar, even from the first, was the degree of what the patient thought, and we also thought, to be gastric suffering. The report all through bears this upon the face of it; in the very first note of the case by myself, the day after admission, it is said: “The earliest symptoms, extending back to two years ago, seem to have been referred to the stomach both by herself and her medical attendant—i.e., want of appetite, occasional vomiting, and pain in the epigastrium extending through to the back.” Nine months after this she was first told that her heart was affected. Now, no one ought to say that painful disorders of the stomach are very uncommon in heart disease, but the frequency and severity of these apparently gastric suffer-

ings in this case struck me as taking it quite out of the common range in this respect, and I believe I told you so at the time. This peculiarity, too, interfered with the administration of remedies; tincture of digitalis, at first prescribed, had to be stopped on account of sickness, though it acted with great energy upon the kidneys, and we were afterwards able to give Nativelle's granules of digitaline at least without injurious, and probably with good, results. A similar uncertainty seemed to attend the action of the convallaria majalis; it was in this case, therefore, beyond most others of last session, that I had occasion to thank Professor Fraser of Edinburgh for enabling me to employ a sample of the new cardiac tonic, strophanthus, which, after she became accustomed to the bitter taste of it, seemed to do everything that was expected from it, and not to excite the gastric irritation. But the numerous detailed reports show the great amount of difficulty we experienced in treating this case, owing to symptoms which, even when the cardiac and renal conditions were manifestly improving, were “referred more to the stomach than the heart” (February 7th—i.e., six weeks after admission). A week later we have again an allusion to the “ill-defined and gastric character of the symptoms” (then in abeyance). “She speaks of a sense of ‘chuggin’ (I make no attempt to render this word into scientific language—it must speak for itself) in the epigastrium, which she evidently attributes to the stomach and not to the heart.” From this time improvement was, on the whole, progressive; but on February 27th there is a note, even in the midst of this improvement, that “for the past two days she has been troubled with intestinal colic” (here the word “intestinal,” I must observe, is not mine, but embodies the theory of the resident physician); “but this symptom has been relieved by the use of assafoetida pills.” She was dismissed on March 20th, 1885, after a residence of nearly three months, in a very greatly improved condition as regards the heart, and with the following highly satisfactory note as to the action of strophanthus, which I here place on record, in justice to a new, and probably a valuable, medicine. “Nothing like sickness has been experienced in the course of the treatment by strophanthus; patient only remarking that the medicine was very bitter.”

Now, observe carefully all the preceding expressions taken from the hospital report; and further, note with me the sequel of this case, and then judge whether the whole or the greater part of the symptoms assumed to be gastric (or in one case “intestinal”) are not rather to be referred to the biliary passages, as the result of the transit of a probably numerous succession of small gall-stones; since the post-mortem examination shows the terminal and severe epigastric sufferings to have been unquestionably so determined. But in order to enable you more fully to apprehend this, and to appreciate the difficulties of the diagnosis during life, I must add one more, though it be a negative, fact; which, however, you will please consider as not resting on direct evidence, and therefore just possibly open to correction—viz., that at no time while this case was under observation, possibly at no time at all during its progress, was there any notable jaundice. Had there been jaundice, and had it been brought into obvious relation with any of those numerous so-called gastric attacks, it would hardly have been possible to miss the true diagnosis; the pain, at least, must have been regarded as probably hepatic, not gastric, in origin, and the variable and colicky character of it at times, the sense of “chuggin,” the severe suffering extending from front to back, would probably have brought up the idea of gall-stone, and caused concretions to be looked for in the evacuations. Nothing of this kind took place. But it is not only because we did not observe jaundice that I assume its probable absence. Jaundice from gall-stone, or from any kind of obstruction of the passages, is always accompanied by a very greatly deepened and altered colour of the urine, which it is hardly possible to suppose, with even moderate care, to have been wholly overlooked. Now, we have nearly forty detailed clinical examinations of the urine in this case recorded carefully in a separate book, as having been made between November and March; in every one of these nitric acid was employed, not, indeed, expressly to detect bile, but as a test for albumen; and in not one of these notes (in which, I may mention, the colour of the urine was particularly recorded in a column by itself) is there the slightest hint or suggestion of anything like bile pigment. “Amber” was the prevailing tint, lighter or darker according to circumstances. I affirm, then, with a probability almost

¹ Dec. 27th, 1884, Journal X., p. 201.

amounting to certainty, that there was no jaundice; with absolute certainty, no persistent or considerable jaundice during the whole of this period. Moreover, the patient never mentioned jaundice as a feature of the early attacks, while she herself believed the whole disease to be altogether in the stomach; and jaundice (as you well know) is a symptom which, almost more than any other, arrests the eye and enchains the mind of a non-medical observer, so that it is popularly spoken of as if it were the disease whenever it is recognised as present at all; and I can positively affirm that in her last hours and in the dead body the conjunctivæ and the skin were not jaundiced. It would be too much, perhaps, to maintain on this negative evidence that this woman was never at any time jaundiced; but there is good reason to presume that during a large part of her illness, and during the most marked prevalence of the symptoms above recorded, bile pigment was very little, if at all, abnormally present in the blood. Hence the error or omission in the diagnosis to which I have referred.

Mrs. G—was admitted to the hospital again on May 18th, 1885, certainly much worse than when she was dismissed in March; but, according to my judgment, not worse than she had been at various periods during her former residence. Three days after her admission (May 21st) I made a most careful examination, keeping in view all the facts previously recorded, and found them *in statu quo*, with the qualifications just made; the cardiac action the same, the murmur the same; “the gastric symptoms formerly described still present, but by no means in an exaggerated form. Legs considerably swollen, and with a tendency to eczematous exudation on the surface, but not very tense. The temperatures absolutely normal. The urine, noted as 19 oz. on the day after admission, rose to 101 oz. on the 20th, and to 148 oz. on the 21st.” Similar rapid variations in quantity² had been recorded during her former residence as occurring under remedies; this time the increase took place partly under digitalis, partly under convallaria with caffeine. She had been treated locally, on account of the abdominal or gastric suffering and supposed flatulence, with poultices and fomentations to the abdomen; also with turpentine and soap enemata and compound assafetida pill. The pulse and respiration were both considerably accelerated on the 20th, the maxima being 45 and 128; but, as above indicated, there was absolutely no fever. In the course of the next afternoon (21st) “she complained of a good deal of pain regarded as mainly gastric, but the temperature showed no rise, being 98°8' in the morning and 98°6' in the evening. At 2 A.M. of the succeeding day (the 22nd) a rigor occurred, after which the temperature was noted as 102°4', for the first time since admission within febrile limits. Dr. Rutherford, the resident physician, was sent for, and found that the rigor had passed away, but the pulse was small and uncountable. At 6.30 A.M. the temperature was 103°6'; the pain was very severe in the upper abdomen, and continued until followed by unconsciousness. At 8 A.M. she was completely unconscious, and at 9 A.M. she died.

If you ask me now what I expected to find at the post-mortem examination as the cause of the fatal crisis in this case, I must frankly confess at once that I cannot tell. I thought it indeed just possible that there might have been some perforation of a viscus—stomach or duodenum,—giving rise to peritonitis, or to inflammation perhaps limited more or less by adhesions. Looking to the long-continued history of gastric suffering, this appeared not an unreasonable expectation, and one of the few causes that would help to explain a death within seven hours from the first rigor and rise of temperature. Beyond this I felt unable to carry speculation

as to the precise cause of death, and certainly, in the absence of jaundice, it did not occur to me to attribute the death or the fatal sufferings to gall-stone. Yet here we have a gall-stone caught, as it were, *in flagrante delicto*, actually imprisoned in the common duct at the time of death, and forty-four more of them remaining in the gall-bladder after death. But the very largest of these gall-stones appears, especially in the dilated state of the ducts, to be very inadequate to their complete closure. There is not one of them that measures even half an inch in its extreme diameter; and this one, closely resembling the impacted one in size, weighs only five grains. The smallest weighs only half a grain. All of them are faceted—that is, they have smooth, flat surfaces, separated by straight angular ridges. They must therefore have been at one time packed together pretty closely in the gall-bladder, yet not so closely but that some amount of friction took place, and the opposing surfaces were thus polished and rubbed quite smooth. But although the gall-bladder at death contained all these calculi, it was not even nearly full of them; it was, indeed, considerably dilated, and could easily have held many times the number found without stretching. Is it too much, then, to presume that there were, or may have been at one time or another, scores, or even hundreds,³ of such gall-stones present, of which a great many were discharged *per vias naturales* into the duodenum, at the cost of much suffering, but without absolute danger to life?

But how did the one actually found in the common duct, being not larger probably than many of the others, and not visibly impacted so as to be inconsistent with its passing the orifice by means of a moderately sustained pressure, determine a fatal crisis? That I cannot tell, even now; all that can be said is that there was no other fact discovered at the post-mortem examination at all adequate to the production of these effects. The mucous membrane of the stomach and that of the duodenum were normal. The pancreas and the left supra-renal capsule presented “extreme hyperæmia.” The liver was enlarged and congested (as we, in fact, knew that it must be a long time before death). The kidneys were enlarged and markedly hyperæmic. The heart was in the condition already referred to, and the aortic valve as well as the mitral were slightly incompetent. That is all. It would be more absolutely correct, perhaps, to say that this woman died *with* a gall-stone *in transitu*, than to say that she died simply *of* an impacted gall-stone. But the sufferings connected with the fatal event were unquestionably, I think, chiefly determined by the imprisoned, and as yet undelivered calculus, lying in the very outlet of the common duct. An hour or two more of suffering, a little more strength to bear it, less of congestive complications in the adjoining viscera, and she might have weathered this storm also, like the others before it. But the special instruction which the case conveys is to be found in the evidence it affords that so small a gall-stone, not completely closing the duct to the passage of bile, may nevertheless cause severe, and in this particular instance fatal, suffering; and further, that in all probability an unknown multitude of such calculi may pass in succession, all attended with similar sufferings (except as regards the presence of fever in the fatal crisis) without any jaundice being discoverable from first to last.

There are numerous cases recorded in medical literature, and preparations preserved in museums, illustrating the arrest of gall-stones *in transitu* from the gall-bladder to the duodenum, sometimes in the cystic, sometimes in the common, duct. When the stone is a large one, and is therefore long retained in the cystic duct, there is of course during this period no jaundice. Dr. Murchison⁴ records a case (cxvii., p. 368) in which “the patient suffered from severe biliary colic daily for four months before jaundice appeared, the stone, from its great size, being all this time detained in the cystic duct; and Trousseau⁵ mentions a case in which biliary colic occurred repeatedly during four years, and then for the first time jaundice occurred.” In this case Trousseau assumes that the calculus remained in the gall-bladder, occasionally getting into the cystic duct, with the result of producing the attacks of pain, and returning again to its original position. “In the fifth year,” he adds, “the attacks became more severe, jaundice appeared, and the disease ceased upon the expulsion of a single calculus, shaped like

² Trousseau, in his admirably instructive and interesting lecture on Hepatic Colic and Biliary Calculus (Sydenham Society's Translation, vol. iv., pp. 227, 234), writes as follows on the quantity and physical characters of the urine:—“The icteric tint seldom appears till the day after the attack. . . . Even during the attack, the urine, which is very copious, is limpid like water from the rock, being, in fact, what is called *nervous* urine. . . . It is not till twelve, eighteen, or twenty-four hours later that it assumes the reddish-brown-mahogany colour characteristic of jaundice; and if jaundice is to show itself, it is not till then that it will appear.” Wickham Legg “On the Bile, Jaundice, &c.,” 1870, entirely ignores this curious statement, which is also passed over by other considerable authorities. Dr. Legg is “inclined to put the first appearance of jaundice much earlier after obstruction; perhaps within the first twenty-four or forty-eight hours.” Dr. Murchison recognises the *urina nervosa* not only as sometimes preceding, but as, under rare and exceptional circumstances, accompanying jaundice during brief periods. But in the case here recorded the excessive quantities of urine passed at times, and maintained for many days together, apparently under the influence of remedies, were never recognised as having any relation to the particular attacks of pain.

³ Several cases have been recorded reaching one thousand or more. One such case is to be seen in the Hunterian Museum in Glasgow University.

⁴ Clinical Lectures on Diseases of the Liver, &c., 2nd edition, 1877.

⁵ Clinical Medicine (Sydenham Society's edition, 1871), vol. iv., p. 237.

an olive, the greatest diameter of which was two centimetres." In Murchison's very interesting case above mentioned there were grave doubts entertained as to the diagnosis, although thirteen years previously regular attacks of biliary colic, followed by jaundice, appear to have existed. Cancerous disease is apt to be suspected in such cases, and was so in this case by some. But the post-mortem examination showed that a large gall-stone, probably long impacted in the cystic duct, had made its way latterly into the common duct, and was there retained, and had been ulcerating through the mucous membrane of the duodenum, so as to cause hæmorrhage and other unusual symptoms, among which was, for a time, "almost constant diarrhœa."

But these cases, illustrating the long-continued absence of jaundice when the calculus is so large as to be detained in the cystic duct, can hardly be considered as throwing any light on the total absence of jaundice in our case, where the stones were so numerous and so small, and the biliary passages so much dilated throughout as to give them comparatively an easy and rapid course to the duodenum.⁶ Assuming that the attacks of epigastric pain suffered at intervals for more than two years by our patient are to be regarded as similar in origin to the fatal attack, we can only suppose that the comparatively small size and faceted character of the individual gall-stones passed during this period incapacitated them from completely obstructing the duct, or that their very rapid passage gave no time for jaundice to take place in each separate attack. "If the stone finds its way into the bowels within twenty-four hours," says Murchison, following in the main Trousseau, "or if it does not get beyond the cystic duct, or if its form is so angular as not entirely to block the flow of bile, it is quite possible to have biliary colic without jaundice. There is good authority for the statement that small biliary calculi have been found in the stools of individuals who have never had jaundice, but such cases are certainly exceptional; and I am unable to understand the statement of Wolff,⁷ that twenty-five out of forty-five patients observed by him passed through the whole train of symptoms of biliary colic without jaundice, the concretions being found in the evacuations."⁸

In Von Schüppel's elaborate article⁹ the following closely corresponding passage is found: "If the stone makes its way into the intestine after having been arrested in the common duct less than from twelve to twenty hours, or if it does not advance beyond the cystic duct, or if it is of angular form and the bile can flow alongside of it, no jaundice will occur, although hepatic colic is present. By bearing this in mind we shall understand those cases in which people suffer repeatedly from attacks of colic, which are regarded as gastric colic, because no jaundice ever appears, and in which the subsequent course of the disease leaves no doubt that the paroxysms of pain were really due to the presence of gall-stones. In such cases the diagnosis is sometimes confirmed by observing that the attack of pain is associated with a very slight yellow colouring of the conjunctivæ at least, or that the urine shows small quantities of biliary colouring matter."

These citations will serve to show that the case now brought before you is not, perhaps, altogether unexampled,

⁶ In this fact, too, is probably to be found the reason why the pain, though often no doubt considerable, never assumed under observation the exquisitely agonising character attributed to that of gall-stone; nor had it, I think, the extremely sudden invasion usually observed in the case of a large calculus, or even of a smaller calculus passing for the first time through the bile-duct.

⁷ Virchow's Archiv, vol. xx., 1861: Beiträge zur Symptomatologie und Diagnostik der Gallensteine; von W. Carl. Wolff, Pract. Ärzte in Bonn. After a careful perusal of this interesting and valuable paper, I am disposed to attach more importance to its conclusions in this respect than Dr. Murchison appears to have done. But, as Dr. Wolff gives no details of his cases, it can only be here stated in general terms that they were mostly uncomplicated—i.e., without organic disease or serious illness of any kind, apart from the symptoms specially described. As only such cases are included as were actually found to have passed gall-stones with the evacuations, it is plain that a more or less considerable number of doubtful cases must have been eliminated. On the other hand, this fact gives to the study of the symptoms of the cases referred to an unusual measure of importance. Among these symptoms, next to pain and jaundice, the author has been led to give the first place to a slowing of the pulse, which takes place usually to the extent of from five to ten beats, and sometimes more, in the minute during the urgency of each paroxysm. This he observed in one case in which the attacks returned almost daily, and were watched for many months, with all precautions against fallacy. In uncomplicated cases, whether with or without jaundice, he found this symptom so constant that in doubtful cases of the latter description he considers this the leading element in the diagnosis.

⁸ Murchison, ut supra, pp. 339, 340.

⁹ Von Ziemssen's Cyclopædia. English translation, vol. iv., p. 748.

although I confess that I had never before either seen or heard of one in which such a succession of attacks, extending over so long a time, and involving in all probability the passage of quite a multitude of gall-stones, had occurred without either yellowness of the skin and conjunctivæ, or the detection of bile pigment in excess in the urine. I have therefore thought it my duty as a clinical teacher to publish the case.

ADDISON'S DISEASE WITHOUT TUBERCULAR DEGENERATION OF THE SUPRARENAL CAPSULES.

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It would seem that the theory which makes tubercular disease of the suprarenal capsules an invariable accompaniment of the clinical symptoms of Addison's disease will have sooner or later to be abandoned. Eleven years ago there came under my notice the first of a series of cases in which undoubted Addison's disease has existed during life, and yet after death no tubercular disease of the suprarenal capsules has been found. A woman, thirty-seven years of age, about eighteen months before her death noticed a black line on her lips, and two months before this she had begun to be very weak, with shortness of breath; she was also subject to vomiting, which the patient herself called being bilious. On admission the face was noticed to be pigmented, while the sclerotics were a clear white; the buccal mucous membrane was also pigmented, the lips and the gums being marked with bluish-black lines, and the palate spotted with bluish spots. Further, on the arms were the little black pigmented spots which are considered so characteristic of Addison's disease. The legs, arms, and trunk were generally of a brownish colour, which was not more marked around the umbilicus or the mammæ. She died about a month after her admission into St. Bartholomew's Hospital, with symptoms of extreme weakness and vomiting.

The examination showed well-marked pigmentation of the knees, the inside of the thighs, the outer genitals, the abdomen, and the lips. Under the skin there was a fair amount of fat. There was no phthisis, and the only noteworthy appearances found in the body were connected with the suprarenal bodies. A very careful dissection failed to detect any right suprarenal body. First of all, the inferior cava was drawn down and the sympathetic nerves behind it dissected; no naked-eye appearances of disease could be made out; the place of the right suprarenal body was taken by a small lump of fat, not so big as a hazel nut, into which an artery from the junction of the right renal with the aorta could be traced. This little artery was about as thick as a common pin. On the left side there was found a black body in the place of the suprarenal capsule, and of its shape, but not of its thickness. It had vessels like those of the right capsule, but it was a mere shell; when cut into, one wall could at once be raised from the other, and there appeared to be nothing between them. This body under the microscope showed well-marked connective tissue fibres with numerous fat drops in the meshes, but no remains of the ordinary texture of the suprarenal body.

This case was noticed by Dr. Greenhow in the second Croonian lecture read before the College of Physicians in 1875, but he did not admit that it was a case of Addison's disease. And on these grounds—First, that there was a "bilious tendency to explain the vomiting." Now, it is true that the patient did say that she was often bilious; but those who have had much to do with hospital, or indeed other patients, will know that with them an onset of vomiting is usually called being "bilious." Though I thought it right to record the patient's own words, yet one is not bound thereby to an approval of what is said or of the theories of disease which are connoted in such expressions. Secondly, "the patient had lost four stone in weight during her illness." Now, these are again merely the patient's own words, and they possess only the usual worth of such statements. After death there was found a fair amount of fat under the skin. Last of all, it was objected that the temperature was above the normal. It was once 99°. I hardly think much stress can be laid upon a single observation,