Clinical Lecture

ON

PYLORIC ULCER OF THE STOMACH.

By WILLIAM BRINTON, M.D.,

PHYSICIAN TO ST. THOMAS'S HOSPITAL.

GENTLEMEN,—The patient whose case I notice to-day died after several weeks of almost uninterrupted suffering, which, though doubtless reduced by treatment to something considerably less agonizing than it would otherwise have been, was little controlled by any remedies we could apply. But you will not therefore begrudge a few minutes' attention to the story of his malady. Human suffering is far too costly a price to be paid for our knowledge of disease not to make one anxious to gather up every fragment of what we buy so dearly, that nothing may be lost. And Diagnosis, the possession of which is directly necessary to Medicine as a science, and is often the only means of distinguishing the highly trained and intelligent practitioner from the quack, whom a plausible manner, a good address, or an influential start, can lift into popularity and fortune, is at least as necessary, indirectly, to the art of curing disease. Even where it seems most barren, it is most fruitful; assuaging the sufferings, and postponing the death, it is powerless to prevent; or distinguishing the incurable from the curable cases most like them, and thus rescuing the latter from mere expectancy, imposture, or despair.

The class of cases represented by James A—, No. 19, Edward's ward, has a twofold obscurity—connected with their situation on the one hand, and with their nature on the other. Withdrawn by their internal position, as well as by their somewhat uncertain and fluctuating seat, from a rigid physical examination, the viscera of the belly, which execute their work with little perceptible sound or movement, and only discharge their secretions from the body after a complex series of changes and admixtures, oppose great difficulties to the attainment of any such complete information as we get, for example, by auscultation from the chest, or by chemical analysis from the urine. To these difficulties, inherent to the detection of all lesions of the belly, the question of cancer adds others peculiarly its own. In parts naturally withdrawn, for wise reasons, from the dominion of sensation on the one hand, and that of voluntary movement on the other, the aid elsewhere given to the diagnosis of disease by derangements of these two functions fails us. Still more, of course, do we lack the information derived from those changes seen in external lesions. We are thus often left to the vague phenomena of pain, cachexia, and the existence of a swelling or tumour, for the diagnosis of cancer. And of these I need hardly say that pain is provokable by causes without number, and in even acute cases of cancer is sometimes absent; that the cancerous cachexia is simulated by many states, implying no specific (much more cancerous) lesion; and that tumour or swelling may not only be absent with cancer and present without it, but that, even where present, it is easily disguised by various conditions of the adjacent organs. Both of these obscurities are well illustrated by the case before us; your interest in which will perhaps be increased when I add that its appearances rendered it, on the whole, the most obscure example of disease of the stomach which I have seen for many years past: so obscure, that I am afraid I could not possibly have ventured upon a diagnosis at my first interview with the patient. And yet you will see how exact—I would almost say, how *rashly* exact—was the opinion which one or two symptoms, observed at different times, enabled us to put together prior to the obscure peritonitis which occasioned death.

The patient, a pale but by no means lean or unhealthy-looking man of about sixty, was admitted in the middle of October, 1862, with colicky pains in the lower belly and irregular (just then constipated) bowels, both of several weeks' duration. He had an old reducible rupture, a careful examination of which showed that it had no perceptible share in his symptoms. He had worked in lead and copper, and had a distinct bluish-black line around the gums. His family history, and his habits, revealed nothing suspicious; and he alleged that he had generally enjoyed excellent health.

No. 2054.

Was it then a case of painter's colic, or of poisoning by the emanations of copper?

The character of the pain, and the irregular distension of the bowels, were perhaps compatible with such a view; though the details of both suggested an indefinable suspicion against it, for reasons which I must refrain to-day from entering on. It was more of an objection to such a view to find that he, and his father before him, had always been singularly resistant of lead, and that for some time past he had been much less exposed to it than during the preceding forty years. Again, the measures usually adopted against severe constipation soon relieved his bowels; yet the pain was scarcely affected, and the constipation speedily returned. His appetite, originally bad, gradually became worse; and his appearance, also deteriorating, confirmed the surmise which the pain and constipation seemed to leave as almost the only alternative when the notion of metallic poisoning was excluded,—namely, a severe (if not cancerous) lesion in some part of the alimentary canal. This gloomy surmise naturally led us to a very close and constant scrutiny of the case. By-and-bye, vomiting gradually came on; at first a little retching only, then a bilious or glairy fluid—in either case, like the pain, showing no connexion whatever with the time or the nature of the meals. Then the vomiting, still occurring chiefly at intervals of a few days, became much larger in quantity, and at last had the appearance of coffee-grounds.

At the very same time, we lit upon the fact which cleared up almost all the obscurity of the case, and converted our surmises into a probable, reasonable, opinion of its nature; in one word, into a "diagnosis." Some of you will recollect my mentioning that this "coffee ground vomiting," as it has been termed, is no single and simple symptom; inasmuch as the darkened hæmatin of partially digested blood, the black pigment of cancer, and lastly, the brownish colour which decomposition communicates to most food, and especially to vegetable food (and well illustrated by the blackening which the excrements of Man and many animals undergo by prolonged exposure to the air), can all cause "coffee-ground vomiting." And looking carefully to this specimen, I was convinced that it belonged chiefly to the latter of these categories, and thus pointed decisively to *delay* of the contents of the stomach in this organ.

Turning to the patient, I obtained the expected confirmation of this view from a physical examination, of which the chief results were noted accurately down in the subjoined diagram,

e, Ensiform bone. n, Navel. l, Liver. h, h, Margins of hypochondria. g, g, g, Outline of greater curvature of stomach, with c, c, line of its liquid contents, and d, depression above its lesser curvature. g', g', Quadrangular outline of stomach, when this organ was overlapped below by intestine.

itself reduced from the pen-and-ink markings by which we followed out the percussion and palpation of the abdomen. The stomach, greatly dilated, hung with its great curvature much below the umbilicus, where its peristalsis was distinctly visible. In the oblique but supine position of the patient, as he rests with his shoulders raised by his pillow, the level of the liquid gastric contents was distinctly mapped out. Below this level there was a remote, but distinct, fluctuation of liquid; and above it, a sonorous gastric resonance, quite distinguishable from the very different sounds in the adjacent small and large (the latter distended) intestines. Towards the pylorus, the stomach became gradually firmer, thicker, and more resistant than natural; while its peristalsis, at first increased, subsided at a

point considerably short of this valve. But no downright tumour was discernible, even to deep palpation with the ends of the fingers. Indeed, at the point where, beneath the liver, the pyloric end of the stomach seemed immediately to approach the valve, a distinct and sudden constriction could be felt.

The diagnosis was now obvious enough. Obstruction of the pylorus, probably by cancerous or other deposit, with hypertrophy and dilatation behind this adventitious tissue. Whether the increased thickness of the pyloric end was due exclusively to hypertrophy, or partly to this condition, partly to the deposit, I could not quite convince myself. But, as a mere impression, palpation decidedly suggested the latter alternative.

Curiously enough, we never had any opportunity of repeating this observation during the time our poor patient survived. On every subsequent examination, the stomach was so completely overlapped by the distended colon, that its own shape and size could not be mapped out. And as the large vomiting was not repeated, it seemed almost doubtful whether the great distension we had verified was really continuous; in other words, whether it implied any correspondingly large and permanent hypertrophy and dilatation. Supposing the dilatation casual, and the hypertrophy scanty, the pyloric thickening would evidently acquire a greater significance, as being (with a corresponding increase of likelihood) the direct result of a deposit probably cancerous.

On the 28th of November, he was awakened at about six A.M. by great pain, diffused over the belly, but still chiefly referred to the hypogastric region. Little relieved by an opiate draught at once ordered by the assistant-apothecary, the patient was evidently suffering from peritonitis when I saw him, at half-past eight A.M. And though there was not the uncontrollable agony, the tympanitic distension, and the exquisite tenderness to touch and pressure which distinguish most cases of peritonitis from perforation—though, indeed, you saw that he underwent that gentle form of palpation to which I generally limit myself without any apparent increase of his suffering, and neither by his posture, his pulse, or any symptoms of collapse, evinced the ordinary signs of this event, yet I did not hesitate to pronounce that perforation had occurred, and that death was imminent. He died the same evening.

Among the symptoms which justified the inference of severe peritonitis was one to which I have often called attention, and which was here quite of characteristic distinctness—namely, the exclusively *thoracic* character of the breathing. The belly and the bowels, we must always recollect in considering abdominal diseases, are linked together for their co-ordinate function by sympathies (both nervous and muscular) which disease rather heightens and brings forward, than suspends or annihilates. An inflamed peritoneum causes a motionless bowel; a motionless bowel is linked with an almost equally motionless belly. The advantage of this sympathy is so obvious, that if we did not take that wider view over health and disease just mentioned, we might almost refer it to a *final* cause, and regard it as having the special purpose of resting the inflamed part with a view to its reparation.

The peritoneal cavity was occupied by a scanty quantity of bloody serum; and the bowels, especially behind, were rendered adherent by numerous shreds of soft, flaky lymph, evidently of very recent effusion. The colon was for the most part distended, though near the left end of its transverse portion it was almost obliterated by a passive contraction, easily effaced by introducing a finger.

The stomach (now before you) is very much heavier, redder, thicker, and more muscular than natural, as well as somewhat dilated. The whole organ shares in this hypertrophy, by which its different regions are thickened pretty much in the proportions naturally existing between their muscular coats. Hence the most striking absolute thickening engages the pyloric half of the stomach, rapidly increasing as it approaches the pylorus itself. But by slitting it up along its anterior surface, and through its pyloric valve, we bring into view a remarkable lesion, which engages almost all the posterior surface of the pyloric sac, and even spreads over both curvatures towards the front of this segment. Here there is a tolerably regular oval depression, from two and a half to three inches in diameter, floored by a whitish, fibrous, and here and there flaky-looking substance. The greater part of the margin of this depression is formed by a thick rounded lip of mucous membrane, which is raised from a quarter to half or even two-thirds of an inch above the floor of this pit. The floor itself, softened near its surface, rapidly merges, as you cut more deeply through its substance, into a hard, fibrous, tough mass, which covers the pancreas, and is not merely adherent to, but downright continuous with, an indurated areolar tissue that penetrates

this gland, of which the substance is evidently atrophied, as a result of the pressure and vascular derangement thus brought about. At the upper border of the oval depression, or near the lesser curvature of the stomach, there is a perforated spot, large enough to admit the little finger, and bounded by grumous pulpy edges. What between the infiltration of the greater part of the periphery of the depression, and the great hypertrophy of the muscular coat, the stomach possesses a thickness of nearly three quarters of an inch at its thickest part. But the inch of healthy stomach intervening between the lesion and the pyloric valve can scarcely be said to be hypertrophied at all.

As regards the *nature* of the lesion, perhaps it would be too much to say that there can be no doubt whatever as to the collective import of all these appearances. But I can certainly express a very strong opinion that they amount merely to protracted ulceration of the stomach; of one form of which lesion the case before us is, indeed, quite a typical specimen. There is absolutely no fusion of the gastric tissues by the new deposit; this deposit itself is moderate in quantity, fibrous in quality; a healthy change (hypertrophy), far less frequently associated with ulcerated cancer than with ulcer, has engaged the whole organ; there was no sign of cancerous cachexia during life; there is no appearance of the secondary deposits commonly (fifty per cent.) found in some of the other organs after death by cancer of the stomach. Put together all these probabilities—multiplying them, and not adding them to each other—and I think you will find abundant grounds for my holding to the opinion which the inspection of hundreds of such lesions enabled me to form when I first saw this specimen.

You will probably have noticed, that the lesion does not block up, or absolutely obstruct, the pyloric aperture; which, on the contrary, remains quite wide enough to admit a finger. And hence some of you might question how far one is justified in speaking of the lesion as an “*obstruction*” in the strict sense of this word. But that, however we may name it, the condition during life has been effectively one of long delay, threatening downright stoppage, of the gastric contents, the dilatation, and still more the hypertrophy, behind the lesion, place beyond all disproof. Pathologically, indeed, we may lay down as a general proposition, that a virtual obstruction of the digestive tube may be caused by any state which continuously impedes healthy peristalsis. So that a ring of ulceration, deep enough to produce a circular or complete solution of continuity in the muscular coat; or the annular cicatrix of such ulceration; or, lastly, a ring of any new deposit gradually substituted for the muscular bundles which it has infiltrated, laid waste, and finally disorganized—can all cause obstruction. And, in like manner, much less than a complete circle of such mischief sometimes virtually obstructs the tube, by the interruption and embarrassment which it inflicts on the muscular action of the adjacent parts. The chain of causation is simple enough. Peristalsis being interrupted (and indeed, so to speak, annihilated) when it reaches a given part of the tube, the contents are no longer forwarded past this spot; they accumulate there; the muscular coat behind it, unduly stimulated by such accumulation, makes violent efforts to pass it on; the frequent and energetic contractions thus enforced on the muscle cause it to enlarge or thicken by a process which, as it is (relatively to its normal state) over-nourishment, is very properly termed *hypertrophy*. Were this hypertrophy a complete and perfect compensation for the obstacle—in other words, did it enable the organ to force a complete passage of the obstructed part, there would be no further dilatation. But just as dilatation must precede, and provoke, hypertrophy, so it generally surpasses it, or at any rate marches onward with it. And, for reasons which will be obvious to a little consideration, it is evident that hypertrophy and dilatation in some sense maintain, in their ordinary association, the rule which especially applies to the former as the pathological contrast and opponent of the latter—namely, that, as being an effort of Nature to ward off the evil results of obstruction, it is especially favoured by whatever aids the nutrition of the body and of the affected muscle; as well as by whatever protracts a process in itself involving so vast a change in the number or dimensions of the original fibres, and so great a development of their sarcois contents.

That, under the circumstances, there was at first some difficulty in detecting the contracted and thickened pylorus, is easily explained by the character of the lesion, and especially by the very moderate thickening of the anterior surface, and by the firm attachment of the whole of this end of the stomach to the posterior wall of the belly. Recollecting this, as well as the rigidity of the muscular wall of the belly, and the difficulty of passing the fingers behind the overhanging liver, you may

perhaps be surprised at such a lesion being detected at all by palpation during life. But an educated touch can go far beyond this degree of delicacy, and can often satisfactorily decide on the presence of lesions involving much less derangement of the healthy parts than was present here.

Lastly, I must ask you to notice the extreme (and sometimes insuperable) difficulties which occasionally thwart us in obtaining information from patients, especially of the lower class. I have not the slightest doubt that the poor patient's statement of having previously enjoyed good health was utterly inaccurate. To judge by the experience acquired in my own careful study of this special malady,* we are entitled positively to contradict the above statement; and to say that he had probably suffered from this gastric ulcer for many months, indeed many years, before his entry into the hospital; and that had we seen, or he recollected, his earlier symptoms, there would have been no difficulty whatever about the diagnosis of his disease, and a better chance of its cure. But long before we saw him, all the symptoms which are specific to mere gastric ulceration, in the sense of distinguishing it from ulcerating cancer of this organ, had merged into those of a large and profound lesion, prostrating the vital (including the mental) powers, and causing continuous pain, no longer essentially gastric, and associated with obstruction and dilatation of one part of the digestive tube, embarrassment and exhaustion of the others. I have known a highly educated patient, in full possession of the mental faculties, utterly forgetful for a time of the years of occasional agony which had preceded the passage into the bowel of a gallstone, big enough to obstruct the intestinal canal. And that an unfortunate sufferer like him whose case we have to-day alluded to, should have looked upon his gastric pains of years gone by as the indigestion incident to most people, or as utterly unworthy of recollection or mention by comparison with the severe and continuous agony into which they had at last merged, seems natural enough; even apart from that comparative *dementia* which starvation, suffering, and decrepitude would bring about in the most strong-minded of us all.

Lectures

ON THE

NATURAL HISTORY AND TREATMENT OF HIP-JOINT DISEASE.

By RICHARD BARWELL, F.R.C.S.,

ASSISTANT-SURGEON TO THE CHARGING-CROSS HOSPITAL.

LECTURE II.

GENTLEMEN,—Our last lecture was taken up with the commencement of hip-joint disease—with what is called its first stage. You know that we in England have, since Ford's time, divided hip-disease into three stages: 1st, the commencement; 2nd, the period of lengthening; 3rd, the period of shortening. In Germany, of late, this division has been much criticized: for it is truly remarked that in some few instances shortening supervenes for a few days before lengthening comes on; that in some others the latter state never occurs at all; while in another set of cases the two conditions may alternate. Therefore it has been proposed in that country to make the second stage extend from the commencement of suppuration to the external discharge of pus. But the truth is, that the irregular class of cases are too rare to form other than exceptions; while the newly proposed classification, since we have no absolute means of ascertaining when pus begins to be formed, is more suited for the museum than the sick-bed. The first mentioned mode of division is certainly better, although it is not of any greater scientific value than that it enables us to designate in short terms the particular phase of the disease under description at the moment. If it were desirable to change these terms, the best mode of division would be—1st, the commencement; 2nd, the stage of active muscular contraction; 3rd, the stage of passive contraction, or, as I have elsewhere ventured to term

it, *contracture*. The second of these divisions would embrace the whole period of lengthening, together with that portion of shortening during which the disease was active. However, it appears to me always a matter for grave scruple to change the usual nomenclature of a science; and although I do not desire to attempt it, I shall in this instance take little notice of the ordinary division between the second and third stages, but shall mass together all the active part of the disease from the commencement of deformity onwards.

Let us now run over the typical history of the periods, before weighing the significance of the critical symptoms. Towards the end of the first stage the limping gradually becomes more marked; the position of the limb changes; the foot and knee turn out, the latter lying on a plane anterior to and separated from its fellow; and after a time it will be observed that the thigh looks longer than the other. This is the appearance *par excellence* which constitutes the second stage of the malady. It is accompanied by a good deal of swelling behind the trochanter and in the groin, pain at the hip and knee, and starting pains at night, with a certain amount of peculiar wasting of the limb and loss of health. This posture persists a certain time, the disease varying very much in intensity. At last there will come on an unusually severe paroxysm; the patient lies, if he be allowed to choose his own position, on the sound side, with the thigh of the diseased one very much bent and thrown over the other, resting with the inside of the knee on the bed; he gets very little sleep, and has frequent exhausting sweating. Suddenly there comes a remission in these symptoms, and if the patient be examined the limb will be found apparently shortened; that is to say, the third phase of the disease has commenced.

The meaning of this succession of events is as follows:—During the earlier portion of the second period the capsule is becoming more and more distended with fluid, the pressure and confinement of which produce the hectic fever, the peculiar pains, and the defined swelling. At a certain time the capsule breaks, the distension is relieved, and the patient is for a period free, or nearly free, from pain. The relief is, however, but short; the symptoms recur with those variations produced by the difference in the local state: the pains of the second period being further increased, the starting relatively more violent, the form of the swelling less defined, and matter presents itself externally, while, as above stated, the thigh seems shortened.

We will examine into these appearances of lengthening and shortening, to find in what they really consist, and what is their real signification. When speaking, during last Lecture, of a certain appearance of breadth of buttock on the diseased side, I asserted that fluid secreted in the synovial sac could not possibly be gathered between the head of the bone and the acetabulum in sufficient force to separate the one from the other. But it might be said that after some continuance of disease the ligaments and other parts may become sufficiently lax to allow of such an action, whereby some lengthening of the thigh could be produced. This would be very much opposed to the real occurrences; but if we admit for a moment that protrusion outward of the caput femoris, by means of internal pressure, could occur, such an action would not make the *slightest difference in the length of the limb*. The experiments which I made on this subject are conclusive. Heavy weights were hung on the lower extremity of various subjects, and a portion of the inner wall of the acetabulum having been gouged away, wedges were driven in between the head of the femur and the rest of the floor of the cavity, thus separating the bones in one example eight-tenths of an inch, in another a whole inch. In no instance, although means were taken for ensuring perfect accuracy of measurement, was the limb—i.e., the distance between the anterior inferior spinous process of the ilium and the inner condyle of the femur—lengthened or shortened by the fiftieth of an inch.* By these and certain other experiments which need not be mentioned here, I have definitively ascertained that the length of the limb cannot be changed by any alteration in the relation of the head of the femur and acetabulum, except actual dislocation. Why, then, it may well be asked, do we found our division of the stages of hip-joint disease upon a condition of things which turns out, after all, to be a fallacious appearance? Well, the truth is, that although the limb is not really lengthened or shortened, there are certain changes in position which correspond precisely with the deceptive phenomenon—are, in fact, its cause; and the name itself is too descriptive and picturesque to be lightly abandoned: as, for instance, we know that the sun does not mount above nor fall below the earth's horizon twice in the

* See Dr. Brinton "On Ulcer of the Stomach." Churchill, 1857.

* For a detailed account of these experiments, see Appendix to Chapter XIV. of my work on Diseases of the Joints.