murmur over the aorta rather tended to confirm than contradict my diagnosis. The pulse tracings (see Figs. 1 and 2), no doubt,

Fig. 1.

Tracing from Right Radial Artery, October 10, 1878.

Fig. 2.

Tracing from Left Radial Artery, October 10, 1878.

pointed to diseased arteries, but only of such a character as are frequently met with in persons of the age of the subject of these remarks. Indeed the condition of aorta met with on *post mortem* examination would fully account for the character of the sphygmograms even if a marked aneurism had not been present. For my own part I cannot at present see how I should make a more correct diagnosis if a case with identical symptoms were to come under my notice.

ART. XVII.—*Abdominal Cancer Simulating Aneurism.*^a By
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THE case about to be related presented so many of the phenomena usually found in connexion with aneurism of the abdominal aorta, that it occurred to me a short record of it might possibly prove not altogether uninteresting.

Abdominal aneurism is an affection which not infrequently presents many problems of diagnosis difficult of solution to the clinical observer. More especially perhaps is this the case in the earlier stages, before the sac has attained a size of sufficient dimensions to become manifest externally by a pulsating tumour, accompanied by a murmur, &c. However, even in these cases a more or less constant boring pain in the back, with periodical exacerbations, and a localised bruit occasionally heard (after careful examination) along the course of the spine, may indicate the true nature of the lesion, even at a very early stage of its

^a Read before the Liverpool Medical Institution, April 3, 1879.

development, to say nothing of the detection of a dilated aorta by rectal examination.

An eccentrically pulsating tumour, in the immediate neighbourhood of which a murmur is heard, is apt too often to be regarded as aneurismal, without due importance being attached to the other circumstances and phases of the case. Identical symptoms do exist in some cases of tumour non-aneurismal, especially in those intimately connected with the aorta, and which are of a semi-fluid, or at least not of a very solid, nature. Such an one is the case, a short account of which I am about to give.

Not only may malignant tumours be occasionally mistaken in their earlier stages for aneurism, but also, *vice versâ*, may an aneurism present such characters as to simulate a circinomatous growth. This latter is a rare occurrence, but such an error in diagnosis may be possible if the aneurism be nodular, quiescent, and if the emaciation and cachexia be extreme. The late Dr. Stokes has placed on record a case of this latter description, in which the diagnosis was a matter of much uncertainty even to that distinguished and accurate observer of diseased conditions.

CASE.—Allen M'Cormack, a sailor, aged fifty years, was admitted to Mill-road Hospital, Liverpool, on June 5th, 1877. Had been intemperate, but never had syphilis. About two years and a half before he came under observation he had been crushed about the legs and the lower part of the trunk amongst the cargo in a ship's hold. Ever since then, according to his own account, he had felt himself "getting bad." Pulse was 66, regular, and equable. He complained of pain in the epigastrium, which was aggravated by taking food. He occasionally vomited matter, which at times, he said, "was like barm," but never brought up anything like blood. Tongue was rather coated. A distinct, diffuse, distensile, and heaving impulse could be felt in the epigastrium. This extended in every direction for about four inches, and a corresponding area of dulness could be indistinctly (owing to the intervention of coils of intestine) mapped out by percussion. A blowing murmur was heard over the seat of impulse. *Impulse persisted on placing the patient on his hands and knees, but was neither increased nor lessened.* Heart's sounds and action were in every respect normal. He was emaciated to a certain degree, and anæmic-looking. He was ordered bismuth and hydrocyanic acid to check the sickness.

June 7th.—He vomited some frothy, brownish fluid, with some flakes in it. Complained of pain over the seat of impulse. He was now given large doses of iodide of potassium, which seemed to relieve the pain.

22nd.—He again complained of much pain across the seat of impulse,

especially towards the right side. Some solution of morphia was added to each dose of the iodide.

July 2nd.—Pain under floating ribs on left side.

30th.—Suffered great pain across the abdomen; passed a fair night, but was occasionally awakened by “sudden jerks of pain.”

August 10th.—For some time he had been suffering intense pain at the area of pulsation and round the umbilicus, and also under the false ribs on both sides. There was now pain in the back, *but not of a boring or severe character.*

Sept. 1st.—Pulse over 100; suffers intense pain in the old positions, and has again been troubled latterly with the vomiting. Has become very much emaciated. Pulsation in epigastrium has grown much stronger and more distensile, and the tumour more prominent. No nodulation could be detected.

3rd.—There was an abatement in the force of pulsation.

13th.—He had become very much easier in every respect, the pains being much lessened. He found much relief by lying diagonally on his face and right side, the thighs and legs being flexed. A distinct bruit still persisted. He has emaciated even to a greater extent, is very anæmic, and his face has assumed a dirty, dingy-looking hue.

Oct. 24th.—During my absence on “fortnight’s leave” he had become weaker and weaker each day, and sank exhausted on this date—no new symptoms, as far as I can learn, having supervened.

25th.—*Post mortem* examination. Dead about twenty-five hours. Emaciation extreme; no subcutaneous fat whatever; rigor mortis absent.

Chest.—The lungs appeared to be in every respect healthy. Both pleural cavities contained a small amount of fluid. The heart was small and pale-looking; its valves and orifices were perfectly normal.

Abdomen.—The liver was considerably enlarged, its weight being $5\frac{1}{2}$ lbs. It was studded here and there over its surface with stellate, yellowish, somewhat puckered markings, scarcely raised above its general surface, and presenting on section a cheesy, friable-looking appearance. The entire organ was crowded with these nodular bodies, varying in size from a small hazel-nut to a small apple. Its upper and posterior aspect adhered to the diaphragm. Adhesions also existed between it and the small intestines. The duodenum was almost entirely ensheathed in a soft mass of encephaloid. Running along the pancreas to the hilus of the spleen was a chain of enlarged cancerous glands. The greater mesentery also was studded with these bodies. In front of the spine, lying on the aorta and almost encircling it, was seen a large, somewhat nodular mass. This extended from the celiac axis, whose branches were seen piercing it, almost to the bifurcation of the aorta.

Remarks.—Let us now briefly review the principal symptoms

and physical signs in this case, which bore a strong resemblance to—in fact were identical with—those usually found in the majority of cases of aneurism.

(1.) In the first place, the history was very similar to what we are accustomed to hear in these cases—viz., a crush about the legs and lower part of the trunk, accompanied, no doubt, by violent struggles on the part of the patient to extricate himself from his uncomfortable position. Such like accidents, the pursuit of various trades which require the constant pressure to be exerted on the epigastrium, excessive muscular exercise or blows on the abdomen, are the exciting causes we most frequently read of in the history of abdominal aneurism.

(2.) The patient in the case we are considering dated his illness from the time of this accident, and the development of his symptoms seemed to have been gradual and progressive from that time.

(3.) Then we had an epigastric pulsating tumour, having a distinct, forcible throb, expansile in all directions, not merely the forward upheaval that one might expect to find in a case where a solid tumour was lifted, so to speak, from its bed by the pulsation of the great vessel lying behind it. This pulsation also was *persistent and equable in all positions*, which is characteristic of aneurism, or of a tumour most intimately connected with the aorta. The tumour was of a kind which would be likely to be affected by eccentric pulsation communicated from the aorta. It was one of those semi-fluid encephaloid growths which (as the late Dr. Stokes, in his work on “Diseases of the Heart and Aorta,” points out) are very apt to simulate aneurism—at least before nodulation can be detected, and the so-called cancerous cachexia has become developed.

(4.) A bruit, well developed, and heard whenever it was sought in all positions in which it was possible to examine the patient, both in front and posteriorly, was a physical sign highly presumptive of aneurism, occurring, I believe, in about 25 per cent. of the cases, but, I need hardly add, by no means peculiar to this affection. The remarks made above, concerning pulsation with reference to persistence and equability, are also applicable to this sign, and need not be repeated. Perhaps we may add here that the bruit accompanying an aneurism in many cases disappears on the patient assuming the sitting posture.

(5.) The pain was not quite of the kind usually met with in aneurism; it seemed to be situated more towards the anterior

aspect of the tumour, and, although it radiated round the lower part of the chest, it never was of the *boring character* in the back which is so frequently complained of. I thought this might be owing to absence of erosion of the bodies of the vertebræ. Nor did it shoot down one or both lower extremities. However, it was paroxysmal, and *appeared to be relieved* for a time by the use of iodide of potassium—a drug which is now much recommended in the treatment of aneurism, and whose beneficial action is supposed to be due to lessening of the blood-pressure in the sac.

(6.) Vomiting (which was also present in this case) is a symptom found in a small proportion of abdominal aneurism cases. I suppose it is produced either by reflex action through implication of the great ganglia of the sympathetic, or possibly by direct irritation of the stomach, in cases where this viscus is pressed upon by a tumour. This symptom may be present in any case of abdominal tumour—it was a most distressing and uncontrollable feature in a case of aneurism of the cœliac axis which I published some years ago.*

(7.) The decubitus was somewhat characteristic of aneurism—viz, crouched up diagonally on one side, the legs and thighs semi-flexed, so as to relax the abdominal muscles. I have seen this position assumed in at least one case of abdominal aneurism. Dr. Stokes mentions this form of decubitus.

These seven features—viz., (1) the history of an injury, (2) the mode of onset of the disease, (3) the pulsation, (4) the bruit, (5) the pain, (6) vomiting, and (7) the decubitus—which I have thus endeavoured separately to analyse, were all highly presumptive of aneurism when taken in their entirety; and I think any physician might fairly be justified in coming to a *probable* diagnosis of this lesion from such data. Such diagnosis would be found to be correct in the majority of cases. However, experience would teach us to be cautious, and to refrain from giving a positive opinion.

In looking back at the case, the progressive and rapid emaciation, and the peculiar dingy appearance of the patient, ought possibly to have induced one to modify his opinion, but up to a fortnight before the patient's death, I do not think these were much more distinctive than what is commonly seen in aneurism. Certainly, in the absence of marked nodulation, they were quite insignificant as compared with the other phenomena. The patient died on the day I resumed duty at the hospital, after an absence of

* Irish Hospital Gazette. January 1st, 1875.

a fortnight, and my friend, Dr. Pollard, hinted at the possibility of finding malignant disease. The result of the *post mortem* examination proved this opinion to be correct.

Quite recently Dr. Scheele, of Dantzig, has drawn attention to the increase of local pain caused by compression of the femorals as a valuable diagnostic point in abdominal aneurism. Now, I think it quite possible, had it occurred to us to employ this test in the present case, an increase of local pain might also have been found to occur, and thus still further evidence in favour of a faulty diagnosis would have been forthcoming. This method of examination, however, cannot be generally recommended, as several instances of rupture of the sac have occurred, apparently produced by the increased blood-pressure.

THE PATHOLOGY OF ADDISON'S DISEASE.

IN the *Archives de Physiologie Normal et Pathologique*, 1878, Nos. 5 and 6, M. Jacquet arrives at the following conclusions :—1. In Addison's disease, the bronzed skin one finds only as a lesion of the sympathetic system, pigmentation without atrophy of the nervous cells of the ganglia which are in the neighbourhood of the diseased suprarenal glands. 2. The degeneration of a part of the nervous fibres attaching the same lunar ganglia to the nervous centres ought to be regarded as secondary and consecutive to the process of sclerosis which accompanies the tuberculisation of the capsules. 3. That lesion is insufficient to serve as the basis of a pathogenic theory of Addison's disease. 4. Hyperpigmentation of the nervous cells of the great sympathetic and of the cerebro-spinal system is a fact of the same order as the hyperpigmentation of the epidermic cells of the Malpighian plexus. 5. This hyperpigmentation renders probable the existence of an alteration of the blood by the substances which a suprarenal gland would, in the normal state, be employed in utilising by transforming them. 6. The alteration of the blood by functional or organic insufficiency of the suprarenal glands is a pathological phenomenon analogous to that which exists in chronic uræmia. 7. Alongside of the melanoderma, by alteration of the suprarenal tissue, there seem to exist cases in which the melanoderma is due to the lesion of other blood-making organs. 8. Clinical researches in Addison's disease ought especially to be directed to the chemical analysis of the blood and the urine.—*Lond. Med. Record*, April 15, 1879.