A DEMONSTRATION OF A CASE OF ANEURYSM OF THE ASCENDING AORTA, WITH COMMENTS.

*(Given at the London Medical Graduates' College and
Polyclinic.)*

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The case was brought before the College as illustrating the class of "aneurysm of physical signs."

The ascending aorta and the first part of the arch move freely up and down with each beat of the heart, and this mobility is provided for. As a consequence of such provision an aneurysm of this part of the great vessel may attain considerable size and betray its presence by conspicuous signs without pressing upon any important structure. Aneurysm of the transverse or descending division of the arch, on the other hand, very soon implicates nerves or veins or the trachea or the root of the left lung, thus giving rise to symptoms while the physical signs are still obscure and difficult of recognition, whence the name "aneurysm of symptoms."

The patient was a literary man of sedentary habits aged 52. Two months previously he had had pain, supposed to be rheumatic, in the front of the right chest. It had soon subsided, but had led him to notice a pulsation which was easily felt about an inch and a half from the right border of the sternum in the third intercostal space.

The first point to which attention was called was a marked difference between the right and left radial pulses. The right pulse was larger than the left, more sudden, and much more perceptible, and it was worthy of notice, although the difference was not due to the aneurysm, but especially because the aneurysm could not have given rise to it. Had the aneurysm been in the transverse part of the arch the smaller left pulse would probably have been set down as one of the points in the diagnosis. Erroneously, however, for it was not the characteristic aneurysmal modification of the pulse. The distinction was, not that the pulse was apparently weaker or smaller, but that the left pulse seemed to be later in time than the right in consequence of a difference in the form of the pulse wave, which made it less sudden in its incidence. Here the two radial pulses were absolutely simultaneous and essentially similar, the only difference being that the left was smaller. This was mainly due to the fact that the artery was smaller, but Dr. Walter Broadbent has pointed out that in aortic obstruction and regurgitation the pulse is often bisferiens in the left radial and not in the right, which shows that there is some modification of the blood pressure in the arch of the aorta.

Coming now to the examination of the chest. A slight general heave of the right chest was visible, and a distinct gentle pulsation in the third space about an inch and a half from the margin of the sternum. The cardiac impulse could not be seen; there was no enlargement of the veins of the neck and therefore no pressure on the vena cava or right innominate vein.

On palpation, heaving pulsation was very distinct at the point already named; it was felt to be forcible when the fingers were pressed into the space and rather more extensive during expiration than inspiration. Attention was specially directed to the diastolic shock, which though not well marked in this case was easily recognised when the palm of the hand was closely applied to the chest over the pulsating area.

This diastolic shock is one of the most conclusive signs of aneurysm; it is a sharp vibration felt as the heaving pulsation subsides and it coincides with the accentuated second sound heard at the same spot. It is not present over a pulsating malignant tumour.

The cardiac impulse was feeble, and the apex beat displaced

upwards and to the left, no doubt from the base being carried downwards by the elongation of the aorta.

The beat of the right carotid was much more distinct than that of the left, corresponding in this respect with the radial pulse.

Nothing of importance was brought out by percussion, except the fact that while there was modified resonance all round the pulsating area which itself was dull on percussion, the resonance in the right second space near the sternum was good. This seemed to indicate that the neck of the aneurysmal sac was probably narrow.

The evidence already obtained was quite sufficient, without the aid of auscultation, to establish the diagnosis of aneurysm of about the size of a small orange springing from the outer side of the ascending aorta, just above its emergence from the pericardium.

Auscultation, however, confirmed the diagnosis and revealed the existence of aortic regurgitation. A smooth diastolic murmur, beginning with an accent, was audible over the lower end of the sternum in the middle line, and less distinctly to the left of this spot. It was more distinct in the recumbent than in the sitting position, and was not heard either at the right second space or over the aneurysm or in the left third space, where a diastolic aortic murmur is usually audible. The absence of the murmur from the usual points may be taken as due to the displacement downwards of the base of the heart, which had led to the tilting upwards of the apex already noticed. The regurgitation could only be slight since it had not given rise to the characteristic collapsing pulse, or called for any compensatory change in the heart, or impaired the aortic second sound.

Over the aneurysm itself, and especially over the part of the pulsating area most remote from the sternum, the second sound was loud, lower in pitch, and more ringing than elsewhere. Had there been any doubt or uncertainty as to the existence of an aneurysm, this modification of the aortic second sound would have been important evidence. In aneurysm of the descending part of the arch, reinforcement of the second sound beyond the left edge of the manubrium, and the change in its character just described, are often extremely valuable as physical signs corroborating an inference from symptoms.

A smooth low-pitched systolic murmur was also heard over the pulsating area, but murmurs scarcely enter into the diagnosis of aneurysm. Murmurs along the course of the aorta are very common from other causes, and may be produced at the valves, or by roughness of the walls of the vessel or by pressure of a tumour upon it, while they are often absent in aneurysm. The one condition in which a murmur may afford important aid in the diagnosis of aneurysm is when, there being no murmur in the right second space or over the right carotid, a murmur is developed in the course of the aorta, and is heard to the left of the manubrium and in the left carotid.

The most important question remaining for discussion is the prognosis, and this, for aneurysm, may be looked upon as favourable. An aneurysm in this situation may reach a very large size without pressing on any important organ, and therefore without giving rise to secondary effects which produce suffering and shorten life, and as a matter of personal experience the cases which have survived longest have been very similar in all respects to that now under observation.

An interesting subordinate question bearing on the prognosis is the probable influence of the aortic regurgitation. It might, as a matter of argument, be urged either that the violent alternations of pressure in the arterial system would tend to distend the sac and prevent the deposit of laminated fibrin, or that the average general diminution of intra-arterial pressure would have an opposite effect. The only safe answer is experience, and it has seemed to me that those cases do best in which aortic regurgitation is present. One patient with a very large aneurysm and aortic regurgitation was under observation for twelve or thirteen years.

In addition to these general reasons for anticipating a favourable course in the present case, percussion seems to show that while the sac is of some size the neck is comparatively narrow; there is good resonance in the second space close to the sternum. Now, paradoxical as it may appear at first sight, there is a better chance of cure of a large aneurysm

than of a small one. This will be understood by a glance at the accompanying diagrams. In the first, where the sac is

small, the communication with the artery is relatively large, and the blood current will sweep through the aneurysm and effectually prevent the deposit of fibrin. In the other the blood contained in the aneurysm is withdrawn from that which is rushing along the aorta and is comparatively stagnant, which affords the desired opportunity for the formation of laminated clot. The treatment is rest in bed for six weeks, dry diet, and the administration of iodide of potassium in considerable doses.

AN INAUGURAL ADDRESS

ON

OUR POSITION AND OUTLOOK.

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UPON an occasion like the present, we must not forget the dead. We meet to-day under a sense of a loss which has cast its shadow not only over this College and Medical School, but also over this city and province, and indeed, over a much wider area. The late Dr. Cuming was a man of rare natural gifts, of still rarer attainments, esteemed for his sagacity and honoured for his integrity, trusted as a physician, and beloved as a man. My acquaintance with him extended over a period of 20 years, first as pupil, then as colleague in hospital work, and for the last eight or nine years as companion and friend. I learned to appreciate his singular force and vigour of mind, which delighted to range over the whole field of knowledge, and to which no department of culture was foreign or uncongenial. It was difficult to decide whether his aptitude for science or his love for literature was more pronounced, or whether his strength was more manifest in philosophical discussion or in dealing with the practical affairs of life. It might be said of him as it was said of Linacre, the first President of the Royal College of Physicians of London, and the founder of British Medicine: "It has been questioned whether he was a better Latinist or Grecian, a better grammarian or physician, a better scholar or man." Dr. Cuming carried on with singular success the traditional association of letters and medicine, and belonged to the same intellectual family as Harvey and Sydenham, Paget and Stokes. His mind was essentially Socratic and critical rather than positive or dogmatic. He delighted to let the searchlight of his powerful intellect play round the mysteries of Nature, life, and disease, sometimes with the effect of real illumination but sometimes also (as he would himself have been the first to confess) only to render darkness visible. Regarding many great questions, his last word was suspense of judgment. He always distinguished sharply between what was certain and what was only hypothetical or conjectural, and could never be induced to go a single step beyond the evidence. Like Goethe, when confronted by any positive statement, he would say, "But is it so? is it so to me?" He was remarkably free from bias, or prejudice, and eminently wise in counsel, and probably it is by this last characteristic that he will be longest remembered. There were other phases of his many-sided character which can only

be briefly touched upon here—his admirable serenity of temper, his complete freedom from the foibles and jealousies which professional life sometimes induces, his playfulness and *bonhomie*, his steadiness in friendship, his loyalty as a colleague. He is truly mourned both within the ranks of the medical profession and by the larger world outside, and he has left a name which I venture to think will not be soon forgotten.

Scientific addresses have of late been largely reminiscent in character. As the nineteenth century draws to its close it is natural that we should mark time, count our gains and our losses, seek to determine our present position, and cast a glance at the road already traversed and at the path which opens in front. Has medicine—one of the oldest of the art and one of the youngest of the sciences—made solid progress during the century, progress commensurate with the notable advances in physical science, in industrial development, and in imperial expansion which have rendered this epoch illustrious? Has our profession grown in scientific precision, in practical utility, in efficiency, and in repute? Has it developed new organs to discharge new functions and sloughed off the organs which were decayed or outworn? To all these questions an answer can be given—perhaps not wholly satisfactory, but still full of encouragement. To appreciate the progress of medical science during the century, we have only to place ourselves in the position of a practitioner a hundred years ago. We will conceive a professor of medicine addressing his class in the month of November of the year 1799. He would probably congratulate his hearers on the great progress of his art since the days of Harvey and Sydenham. He would refer sympathetically to the life and work of John Hunter, not many years deceased, and to the light thrown upon surgery and pathology by his powerful and penetrating intellect. He would recount the rise and progress of the great Edinburgh School of Medicine, then in its nascent glory, and tell of Cullen, of the Monros and the Gregorys. He would probably refer with becoming reserve and caution to the startling assertion of a country practitioner down in Gloucestershire, one Edward Jenner by name, that he had discovered a cure for the greatest scourge of the age—small-pox. But if we consider for a moment the many things which our professor could not know, our feeling will be one of commiseration for him, for his students, and for his patients. He knew nothing of chloroform or ether. He had never heard of antiseptic surgery. He was ignorant of the distinction between typhus and typhoid fever, or between scarlatina and diphtheria. He could not recognise the most ordinary diseases of the kidneys. He had no stethoscope, had never heard of auscultation, and his knowledge of diseases of the chest was less than that which the student now acquires in his first month at hospital. He had no ophthalmoscope or laryngoscope, or clinical thermometer. He knew of the virtues of opium and quinine, of iron and mercury, but he had never heard of digitalis, or of salicin, or of cocaine. He knew almost nothing of the physiology of the nervous system, and had never heard of reflex action or of cortical centres. He had never counted the corpuscles in his own blood, or seen a radiograph of his own vertebral column. He probably regarded ovariotomy as criminal. He had never seen a lithotrite. If we reflect upon the various points here enumerated—and the list might be easily expanded—we shall realise how largely modern medicine is a creation of the present century, and how our professor would have been either confounded with surprise or consumed with envy if he could have beheld our own enlarged resources and ampler day. That increased knowledge has led to increased power to cope with disease might easily be shown in detail by pointing to the practical extinction of small-pox and typhus fever, to our success in keeping cholera at bay, to the great reduction in the mortality following major operations, in puerperal conditions, and in phthisis; and finally to the fact that during the present reign alone the average duration of human life in the United Kingdom has increased by three and a half years. It has sometimes been said that these great advances are due not to the soldiers, but to the camp followers of the great army of medicine, less to the physicians and pathologists than to the man who repairs our cisterns or looks after our drains. Let us give all such indispensable workers their due, but let us assert once for all