

## Clinical Lecture

ON

## ANEURISM OF THE THORACIC AORTA.

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(Continued from page 365.)

GENTLEMEN,—Since the commencement of the session we have had three examples of aneurism of the thoracic aorta in the wards; one patient has just died, and I intend to offer you, upon his case, a few clinical observations. I shall cursorily refer to the two other instances, so far as they may offer immediate illustration in assisting towards diagnosis:—"John Mc—, a bootmaker, thirty-nine years of age, admitted February 28th, 1856, states that nine months ago he began to feel a difficulty in swallowing food that was hard, it appearing to stop at the top of his breast-bone, until washed down by some fluid. Now, swallowing his drink is even troublesome, causing increase of cough. He feels also a soreness at the left side, near to where his food appears to stop. If he takes anything just before going to bed, he feels as if some of it came up to below the place of pain, but which goes down again on his making efforts to swallow. He has most pain, however, between the shoulder-blades, particularly about the fourth dorsal vertebra. There is considerable uneasiness over the top of sternum, increased and with a sense of suffocation on pressure being made over the sternal notch. His voice is rough and husky, or like a loud harsh whisper, and became thus eight weeks ago. He breathes with a laryngeal stridor, or sort of slight tracheal sound. Both voice and breathing are frequently interrupted by a tracheal-like cough. He attributes these alterations of voice and breathing to an attack of bronchitis he had some weeks since." On his stripping, it is noticed that the superficial cervical and thoracic veins of the left side are enlarged, and along the arm somewhat tortuous, while those of the right side are normal. There is slight visible pulsation of the left brachial artery, but not of the right one. On percussion, the whole of the left side of the thorax, anteriorly and posteriorly, except towards the distal extremity of the clavicle, is found very dull, the dullness, however, increasing over the præcordial region. The right side is resonant, perhaps, to excess. On auscultation, no vesicular murmur can be heard on the left side, but here and there, posteriorly, some bronchial breathing, when the respiration is slightly exaggerated. On the right side the respiration is loudly bronchial all over. The position of the heart appears normal, and neither its impulse or sounds are more forcible than proper; no abnormal bruit is to be heard, but the healthy sounds seem to be continued and heard under the left clavicle to a slight degree. The pulse is 96; respiration 28. The cough and dyspnoea present; the huskiness of voice, and dysphagia are all increased by his lying on his back or right side. There is no œdema of the left arm, or of the left side of the chest. The tongue is greatly furred, yellow-brown in the centre. The patient is tall and thin; his chief source of complaint is pain between the shoulder-blades, and difficulty of swallowing, cough when he lies down, and want of sleep. Now, having a patient with such positive symptoms, and knowing beforehand what diseases are accompanied by these symptoms, we were thus enabled, guided by the non-existence of other circumstances, and by the *couleur locale*, to venture upon a pretty sure diagnosis up to a certain point. If you review these symptoms afterwards, you will find that the chief ones indicate the existence of *pressure*. The patient was first troubled with dysphagia, caused by pressure on the œsophagus. This, it is true, a stricture *might* have produced; but you must look at the other facts of the case. There was pressure on the innominate vein of the left side, causing the veins externally to become dilated and gorged. Certain diseases of the right heart, it must be allowed, give rise to great venous turgescence. But then, it is of both sides of the neck and thorax; here it was limited to one. Again, there was stridor of voice and of breathing, showing pressure on the recurrent nerve and greater

air passages; at least, the want of other symptoms proved such stridor was not due to chronic disease of the larynx. It was further plain, that while little, or, in comparison, almost no air entered the left lung, and the passage to the right was patent, yet that the form and capacity of the right bronchus, nevertheless, was also influenced by pressure. Lastly, there was that peculiar boring and wearing-out kind of pain between the scapulæ, which, along with the previous symptoms, might lead to the suspicion of a centre of pressure over the fourth vertebra. Now, you must bear in mind that change of position, by altering *direction of force*, modified, more or less, many of the above symptoms. Here, then, we were led to say that an intra-thoracic tumour was exerting considerable pressure, because we knew that such symptoms could be caused by such tumour, and the negation of other circumstances forbade our seeking a different causation.

The next question became, what was the nature of this tumour? Solid tumour of the mediastinum, or connected with the left lung, or aneurismal tumour? The latter being much more common than the former, we first looked to the probability of its existence. Supposing there to exist an aneurism, we might have all, and were very likely to have some of these signs of pressure from it on adjacent lying parts, particularly if the transverse and descending portions of the aorta were affected; but, then, should we not have other signs of aneurism, viz., a second centre of sound and of pulsation within the chest, (the first being the heart, you know,) and some local bulging or tumour? Now, neither of these could be detected on the closest examination anteriorly of the walls of the thorax. All that could be said was, that the heart's normal sounds appeared to be *conducted* rather more than could be easily accounted for towards or even to beneath the left clavicle. But it did not strike one as if they got there by any other way than that by which they arrive at near the right clavicle, when the lung substance is a better conducting medium than usual. Again, nowhere was there any general or local jar felt, nor was the least vibratile thrill perceptible. The want of these signs of sound, shock, and tumour, then, made me hesitate as to the centre of pressure being aneurismal; though I knew that if the descending portion of the arch was chiefly affected, the absence of the latter could be as easily accounted for as might be the presence of the boring pain over the dorsal vertebrae. But then I still looked for some sound and pulsation near the latter, or between the shoulder-blades, and these were absent. From these circumstances, and the diffused dullness on percussion of the left side, I thought of solid tumour of the mediastinum, or connected with the left lung, and perhaps cancerous in nature. But then these negative conditions existed—there was no crepitation anywhere to be heard; there was no sanguinolent or "currant jelly-like" expectoration; nor did the heart appear the least intruded upon or displaced. From this I was led to observe to you at the time that further observation would be necessary before a definite diagnosis could be arrived at. For the few days the patient was in the hospital, I made it my business, for my own instruction, to repeatedly examine him, and I pondered very much about the case; and though I felt more and more inclined to think the source of pressure was aneurismal, "solid tumour" frequently came across my mind. On the fourth morning of his stay with us, I spent an hour with him and was particularly struck with the modification of several of the pressure signs by alteration of position, and by the great dullness over and diminution of respiration in the left lung. When I left him I could not say that I was more decided in my diagnosis than I was before; the same slight doubt existed. Afterwards, I referred for guidance to some practical authors, and what Dr. Walshe said I will retail to you. He supposes a case in which the usual positive signs of aneurism are absent, from the fact of the sac being filled with fibrine, and thus closely approximating to the symptoms of solid tumour. "In truth," says he, "one is a tumour *inside*, the other *outside* the arch, and obstruction from without may have the same effect as from within on its circulation. Common to the two things are dullness and non-resilience, usually extending across the middle line, all the signs of centripetal and all the signs of centrifugal pressure. Under such circumstances, the question becomes one of pure probabilities. The conditions in favour of aneurism would be, then, situation in the course of the arch, vibratile thrill above or below the clavicle, gradually increasing nearness of pulsation to the surface, dysphagia, great pain, especially of the dorsal spine, and absence of œdema of the arm and chest. The circumstances in favour of tumour and against aneurism would be, the fact of the patient being a female, and under twenty-five years of age; great superficial extent of percussion dullness, especially if there were no marked attenuation of the walls of the chest; absence

of any heaving motion in the affected spot; want of accordance between the sites of maximum dulness and of pulsation; and currant jelly-like expectoration, common with tumour, very rare with aneurism."

I never saw our patient alive again: after I left him he seemed cheerful and better; at eleven at night he joked with the sister, saying he felt so improved that he should "have something solid to swallow to-morrow." At three the next morning he was rapidly taken worse; the cough was incessant, the dyspnoea urgent; a slight respite came, however, but at five he was said to have died suddenly but "rather quietly." A few minutes after his death, more than a teacupful of blood was observed to flow from his mouth. The next day we examined the body. I show you now part of the contents of the thorax, and the following is a summary of what was observed: The left pleura contained a considerable amount of serum, the left lung being somewhat compressed. The heart looked small and somewhat flabby and fatty. The aorta was slightly dilated from its origin to the top of the arch, where it opened out into a large depending sacular dilatation involving a part of the descending aorta. The main portion of the tumour might be said to consist of two divisions; one, the right lateral and also somewhat posterior division, being solid and hard, from a mass of consolidated fibrine, which pressed upon the trachea just at and above its bifurcation, causing pretty close approximation of the walls of the left bronchus, and narrowing the capacity of the channel of the right. It pressed also on the œsophagus very severely. Two circular holes, the size of a pea, existed in the trachea, just above its division, through which a probe passed to between some loosened layers of fibrine in the aneurismal sac. A large patch of ulceration with perforation, a penny piece in extent, connected the anterior wall of the œsophagus in a like way with the tumour; but here the pressure had been so severe as also to cause ulceration also of the posterior wall of the œsophagus, which lay pressed against the vertebræ, just commencing themselves to become eroded. The stomach was half filled with blood, from perforation into the œsophagus, and that discharged from the mouth at death in all probability was due to the perforation of the trachea.

Now, after all, I do not see that it would have been possible for a greater master in diagnostics than myself to have in this case apodictically predicated *aneurism*. As I show you here, the diseased mass itself seems to partake of the local characters of aneurism and of solid tumour as well. The only point I blame myself concerning, is not having more closely considered the nature and detailed characters of the diffused dulness of the whole of the left side, and which (as well as another sign or two) was due to serous effusion arising from the pressure made upon the veins of that side of the chest.

The next case of aneurism I may direct your attention to, is that of Susan C—, now in Bow ward, a poor old washerwoman of sixty, who appears to have gone through a great deal of hard work. I do not intend entering into the details of her case, but shall simply allude to it, as affording certain well-known signs of aneurism which our previous patient wanted, and as not having others which he possessed. He had *pressure* signs in perfection, but no pulsation or sound in the chest. She has the latter to a high degree, whilst the former exist in a very subdued ratio indeed. Her great and chief complaint was and is "a throbbing in her throat, and beating in her neck and right arm, which always keeps her agoing," as she expresses it. But what I most desire to call your attention to will be the better described by an extract from her case, as recorded when she entered:—"As she lies, the whole of the right infra- and supra-clavicular regions, the region of the sternal notch, and a little to the left side of the throat, pulsate forcibly and rhythmically with the right radial pulsation. A strong purring tremor, or vibratile thrill, is felt by the finger placed horizontally above the right clavicle; whilst so powerful and superficial a pulsation is perceived beneath the distal third of the clavicle as to lead to the opinion that some absorption of the intercostal muscle, if not of the first rib, must have ensued from pressure. Above the clavicle, and below at the point of chief impulse, scarcely more than a single rough systolic sound is heard; but this becomes a double rough sound as one proceeds down the chest and approaches the heart. Pulsation is felt to strike the ear all over the chest behind, but rather more powerfully at the left side, where a rough mitral (?) bruit is heard." This will suffice to point out to you how prominent in the present case are certain signs of thoracic aneurism which were wanting in the former one. In this poor woman there is, I believe, very great dilatation of the ascending part and commencement of the arch of the aorta, of the innominate, with involvement also of the roots of the right carotid and subclavian. Though the *pressure*

signs are in her very slight comparatively, one exists—a new one to diagnosis—I must just touch upon. If you examine her eyes, you will find the right pupil is, *ceteris paribus*, always more contracted than the left one. This fact I should certainly have passed over had I not lately met with some remarks upon the point by Dr. Banks, in a recent number of the *Dublin Hospital Gazette*. You will there find some details upon the matter highly interesting; suffice it now to say, this contracted state of the pupil is shown to be a result of pressure by the aneurismal tumour on some of the cervical nerves. "According to Valentin," says Dr. Banks, "the iris is furnished with nerves from two sources. The section of the sympathetic trunk in the neck paralyses the nerves which act on the radiating fibres of the iris from the spinal system *through the sympathetic*, and resigns the pupil to the exclusive influence of the circular fibres, or those which contract the pupil, and which are supplied from the inferior branch of the *motor oculi* nerve, and thus the pupil is kept permanently contracted." I took a hint from Dr. Banks, and got Mr. Beck, our house-surgeon, to drop a solution of atropine in the eye, the pupil became dilated, and remained so for several days; it then returned to its contracted state, and remains so.

At the beginning of the Session, some of you may recollect a man named Robert M—, in the small clinical ward. He had, we believed, aneurism of the ascending and transverse portions of the aorta. Now, in his case, some other signs existed not present in the other two examples, and he also wanted some signs they had. He had no dysphagia, no alteration of voice or breathing, no dyspnoea, and no vibratile thrill; but he had great congestion of the facial capillaries, decided cyanosis, and, as the report of his case states, "some general protuberance of both sides of his chest, at the upper sternal region, is present, but so demarcated and locally increased on the right side as to form a decided but slight conical bulging between the second and fourth ribs. Over this, it is quite dull on percussion, and a distinct systolic sound, and a *doubtful* diastolic one, can be heard, easily traceable down to the lower sternal angle of the præcordial region. Over right side and top of sternum a slight diffused jar is felt, and some think a distinct *intrinsic* pulsation can be felt by pressing the finger gently on the intercostal space upwards and inwards. This others could not experience."

These three cases, which most of you, I believe, examined, offer us, in different combinations and intensities, the chief signs and symptoms of thoracic aneurism. In the first, you see mainly exemplified the *signs of pressure*; in the second, those of *aneurismal pulsation and thrill*; in the third, of *tumour, bulging, or expansion*. Upon these you will find the diagnosis of aneurism of the thoracic aorta chiefly depends. This diagnosis is sometimes very easy, from the perfection of the symptoms, and their typical combination; at other times difficult, from the negation of some signs, and the peculiar combination of others; and impossible, in a few cases, from no such symptoms ever having existed sufficient to attract attention to the certain and melancholy fate impending over the sufferer from aneurismal dilatation of the great vessels within the chest.

## ON THE PRACTICABILITY AND FEASIBILITY OF PERFORMING THE OPERATION OF EXTRACTION

IN CERTAIN CASES OF ARTIFICIAL PUPIL AND CLOSED PUPIL,  
COMPLICATED WITH OPACITY OF THE LENS OR ITS  
CAPSULE, OR OF BOTH.

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I PROPOSE, in the present paper, to bring before the notice of the profession some cases of ophthalmic disease that afford types of certain conditions that have hitherto been peculiarly embarrassing and unsuccessful in their treatment, and that are by no means uncommon, and to found upon these cases suggestions for a method of operating that is at variance with the rules that have hitherto been laid down by the best authorities on diseases of the eye.

There are two morbid conditions to which I desire especially