CLINICAL LECTURES

ON

ILLUSTRATIONS OF THE VARIABILITY OF THE SYMPTOMS OF ANEURYSM OF THE ARCH OF THE AORTA.

Delivered at the Western Infirmary, Glasgow.

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LECTURE I.

It is exceptional to find all the classical symptoms of a disease present in any one case. This is especially true of aneurysm of the thoracic aorta, mainly on account of the varied anatomical relationships of its different segments. The two classes of symptoms—the direct (physical signs) and the indirect (pressure) symptoms—are usually met with in combination, but not infrequently the one class predominates over or even entirely replaces the other. The physical signs are generally most pronounced when the ascending and first part of the transverse portions of the arch are involved, while the pressure symptoms are, as a rule, more obvious when the left and deepest portion is implicated, and when the aneurysm springs from its posterior wall and projects backwards, there may be a total absence of physical signs. Let me, therefore, give you a few illustrations of these different types; and first of all take a typical case in which both classes of symptoms were combined.

On October 11th, a man, aged 34, was admitted into the infirmary. He was a joiner, and required frequently to lift heavy weights, but his diet had always been good and his habits temperate; he had never had syphilis, and had uniformly enjoyed good health until three years before admission, when he began to complain of palpitation, especially on exertion. Twenty-one months after this, while attending his wife who was laid up with fever, he experienced for the first time a sharp pain in the left breast, which extended to the left shoulder and down the arm. It was then found that he had a double murmur at the base of the heart, with dilated hypertrophy of the left ventricle. Under treatment he improved considerably; but three months before admission he observed that he was becoming hoarse, and he commenced to experience attacks of dyspnoea, coming on for the most part when speaking or walking rapidly, and giving rise to a feeling of suffocation referred to the region of the larynx. He had also a short dry cough, unaccompanied by expectoration. About five weeks before I saw him a pulsating tumour was detected by a medical man in the jugular fossa, which was preceded for a couple of weeks by "a beating above the breast-bone." When first discovered it formed a well-marked prominence at the root of the neck, about the size of a pigeon's egg, and it was tender to the touch. When it made its appearance the palpitation and pains in the chest subsided, but some difficulty of swallowing began to be experienced, and he had the feeling "as if the food was going the wrong way."

On uncovering this man's chest a swelling was observed at the top of the sternum, and inclined a little to the left side, a swelling which was not very prominent, but which occupied an area equal to that of a hen's egg. It pulsated very distinctly, and, on palpation, was found to be very soft, the seat of expansion as well as of pulsation, and of "purring tremor." There was marked dullness on percussion, not only over the tumour, but also over the upper part of the manubrium sterni, and extending a little into the subclavicular region. On auscultation a loud, rasping, systolic murmur was heard, whose maximum intensity was over the swelling, but it was audible over the whole of the chest, in the vessels of the neck and arms, especially on the right side, and in the abdominal aorta, but not in the femoral vessels. The heart was displaced downwards and to the left, and the left ventricle was hypertrophied and dilated, the apex beat being $3\frac{1}{2}$ inches below and $1\frac{1}{2}$ inch to the left of the nipple line, and the impulse being in character and diffused. There was not

much difference in the pulses at the wrists, but the pulsation of the right carotid was much stronger than that of the left. There was evident degeneration of the coats of the blood vessels, as the superficial vessels pulsated visibly, were tortuous, firm, and corded—a condition which doubtless had favoured the development of the aneurysm.

This patient died on December 18th, the aneurysm having ruptured externally. On *post-mortem* examination a dark prominent mass was found to be protruding from the skin immediately above the suprasternal notch; its surface was very irregular, and it was evidently composed of coagulated blood. It was found to communicate by an aperture in the skin, measuring 2 inches from above downwards and 1 inch across, and about the level of the thyroid gland, with an aneurysm of the aorta. The heart was very much enlarged, the left ventricle in particular being hypertrophied and dilated, and it weighed 22 ounces. Numerous calcareous plates were found in the aortic arch, which was somewhat wider than natural. A very large sacculated aneurysm sprang from the upper surface of the transverse portion of the arch, with which it communicated by an aperture large enough to admit two fingers, and situated just before the giving off of the large vessels, none of which were directly involved in it. The aneurysm was somewhat oval in shape, its long axis, directed from above downward, measuring between 5 and 6 inches; it lay in front and a little to the left of the larynx and trachea, which it forced slightly backwards and to the right, but it did not seem to affect these parts seriously. Although the large vessels were not involved in the aneurysm at their origins, the left carotid and subclavian were found to be firmly adherent to, and in part imbedded in, the walls of the sac, while the innominate was only very slightly attached to it. The aneurysm was almost completely filled with old and recent clots, and at one place, almost in the middle of the sac, there was a very distinct stratified coagulum, which was much paler and firmer than the rest. The other organs of the body were healthy.

In the following case there was an almost total absence of indirect symptoms, while the physical signs were well marked and obvious.

On November 8th a married woman, aged 46, a millworker, came under my care, who gave the following history of her illness. About $2\frac{1}{2}$ years before this time, without obvious cause, she began to complain of a "violent beating at her breast," and of hoarseness. About four months after this she began to feel as if a heavy weight was pressing upon her chest, and to suffer from lancinating pains between the shoulders, which extended down the left arm. About eighteen months prior to admission she observed a swelling in the front of the chest, about the size of a small hen's egg; it slowly increased in size at first, but much more rapidly during the last six months of this time. The palpitation also became more marked, especially on exertion, and dyspnoea set in, so as to prevent her from lying with any degree of comfort save on her left side.

On inspection of the chest the swelling above referred to was seen at the lower and inner part of the left infraclavicular space, and implicating also the upper sternal region. It was about $3\frac{1}{2}$ inches in diameter, and its apex—for it was somewhat conical—was about $1\frac{1}{2}$ inch above the surface. It was the seat of well-marked pulsation and expansion, and purring tremor was distinctly present. Dullness was pronounced over the whole of the tumour and slightly beyond its margin, but percussion required to be very gentle, as the part was exceedingly tender. On auscultation a well-marked systolic murmur was discovered, which was pretty extensively diffused, but was most distinct over the tumour. The left ventricle was the seat of dilated hypertrophy. A fortnight after her admission the pains in the shoulders had disappeared, so that no indirect (pressure) symptoms remained.

But there is another class of cases in which the physical signs are slight or absent, and in which the indirect symptoms are mainly or exclusively to be depended upon for a diagnosis, and it is to these cases that I wish specially to direct your attention, because their true nature is very apt to be overlooked.

This patient, when first shown, reached the lecture room with the greatest difficulty on account of severe dyspnoea, which, however, only troubled him on exertion. He was a

moulder, aged 49, who, on admission on March 16th, complained chiefly of cough, dyspnoea, and inability to speak above a whisper, the symptoms being of six months' duration. His family history was good, he had always previously enjoyed good health, was temperate in his habits, and had never suffered from venereal disease. About a year and a-half before admission, as the result, he thought, of exposure to cold and wet, he became slightly hoarse, and in a day or two this was accompanied by some cough, while he indicated the seat of irritation by pointing to his larynx. The hoarseness gradually became more pronounced, until he found it impossible to speak above a whisper; and two months before I saw him the cough became more severe, and was accompanied by slight mucous expectoration. Latterly he complained of weakness and loss of flesh, and exertion of any kind produced severe dyspnoea. He then consulted the late Dr. Foulis, who treated him by means of the induced current applied to the interior of the larynx, but without material benefit.

A laryngoscopic examination showed—what is probably the rarest form of laryngeal paralysis—bilateral paralysis of both abductors and adductors, the cords remaining in the "cadaveric position," that is, midway between complete closure and complete opening of the glottis. The heart was displaced downwards and to the left, the apex beat being $3\frac{1}{4}$ inches below and 2 inches to the left of the nipple line, and the veins on the left side of the neck and infraclavicular region were a little fuller than those on the right. The carotids were equal, but the pulse at the left wrist was much feebler than at the right, while pulsation was felt in the suprasternal notch. Slight musical rhonchi were heard at times over the greater portion of the chest on both sides, while the breath sounds were much more feeble over the left than over the right lung. It was therefore concluded that there was a tumour within the chest which had dislocated the heart, interfered with the free return of venous blood from the veins of the left side of the neck and the free passage of blood to the left upper extremity, and which pressed upon the left bronchus as well as upon the recurrent nerve. I came to the conclusion that the tumour was aneurysmal, and probably springing from the posterior wall of the left part of the aortic arch, thus accounting for the total absence of direct symptoms, with the exception of the slight pulsation in the suprasternal fossa. The patient's age (49) was quite in accordance with the aneurysmal theory, while there was no trace of the cachexia accompanying malignant disease, which is the most common form of solid tumour within the chest.

The sequel of the case was this: Nineteen days after admission (on the morning of April 4th), while sitting up in bed, this patient was suddenly seized with violent coughing and breathlessness, and, when the house-surgeon arrived, he found him semiconscious, livid, and spitting bright red blood. About 2 ounces had been ejected, when he became too weak to expectorate, and in about half an hour death closed the scene.

On *post-mortem* examination by Dr. Coats, an aneurysm about the size of an orange was found springing from the posterior wall of the whole of the transverse part of the arch, the great vessels springing from the aorta lying quite in front of it. It is doubtful whether the right recurrent nerve can have been pressed upon during life, but the left was subjected to very great pressure as it wound round behind the tumour, being, indeed, incorporated with it. The posterior wall of the aneurysm was very thin, and adherent to the oesophagus and trachea, which were flattened out and lying almost side by side. On opening the trachea, the left bronchus was found to be diminished in calibre, and, at the bifurcation of the trachea, there were two small openings communicating with the aneurysm, which accounted for the hæmorrhage at the last.

PROFESSOR KLEBS has declined the Chair of Pathology at Chicago, which was recently offered to him, and intends to settle at Karlsruhe.

FRENCH CONGRESS OF SURGERY.—The questions proposed for discussion at the next meeting of the French Congress of Surgery in Easter week, 1893, are the following: 1. Fibrous Tumours of the Uterus; 2. Surgical Treatment of Tuberculous Affections of the Foot.

TWO CASES OF SMALL OVARIAN TUMOURS SIMULATING UTERINE FIBROID: REMOVAL: RECOVERY.

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[WITH A LITHOGRAPHIC ILLUSTRATION.]

THE two cases which are described in this paper are of considerable clinical and surgical importance. In each, the tumour was small and closely connected with the uterus, so that uterus and tumour moved together. So far, the tumour bore the characters of a uterine fibroid. In each, however, the age of the patient and the relatively rapid growth of the tumour were in favour of ovarian disease, although fibroids may appear in young subjects and grow with rapidity, whilst patients are often mistaken about the rate of growth of tumours. The doubtful nature of the tumour rendered an immediate exploratory operation justifiable. The result proved that, had I waited longer, the risks of operating would have greatly increased. An ovarian tumour cannot be removed too early, and this rule is most important when bimanual exploration and the sound prove that the tumour is closely connected with the uterus. The removal of a large ovarian tumour with a very short pedicle, or no pedicle, is a formidable operation.

E. L., aged 30, a tall, strong woman, married eighteen months previously, but a widow for six months, was admitted into my ward at the Samaritan Hospital in December, 1891. She was a patient of my friend Dr. Chill, of Tollington Park. Two months previously she had noticed a tumour in the hypogastrium towards the right iliac fossa. It grew very rapidly, and for the fortnight preceding admission the patient was troubled by a continual desire for micturition. A firm, spherical, apparently solid mass occupied the lower part of the abdomen, reaching half way up to the umbilicus. The uterus was pushed to the left, the cervix was short, and the sound passed 3 inches upwards and to the left. The tumour extended into the right fornix, and to a less degree into Douglas's pouch and the left fornix. On placing the patient on her left side, the lower part of the tumour could be pushed up, the right side being much the more movable. The movements of the tumour were communicated to the sound. There was a tender body, evidently the left ovary, under the part of the tumour which pressed downwards in the left fornix. The patient had never been pregnant.

I could not feel certain as to whether this tumour was ovarian or uterine; its rapid growth was in favour of ovarian tumour, but a fibroid sometimes grows quickly. The close connection with the uterus and the length of the cavity of that organ gave all who examined the case a strong suspicion that the growth was uterine. I determined to explore. On December 21st, 1891, I operated, assisted by Mr. Butler-Smythe. Some slightly adherent omentum was detached from the surface of the tumour, which was found to be ovarian. On aspiration, a little ovarian fluid escaped, but I had to break down the semisolid interior of the tumour, and as it remained fixed I enlarged the incision and passed my hand behind the tumour, pushing it out of the pelvis. It was a semisolid tumour of the right ovary, with a broad, short pedicle. I secured the vessels on the outer border of the pedicle and then, after applying a large pressure forceps, transfixed the pedicle and tied it, finally cutting away the tumour.

The left ovary was then drawn up; it burst as I lifted it over the pelvic brim. The pedicle was very short. I applied a ligature by transfixion and cut away the ovary. The peritoneum was freely flushed with hot water. There was great vascularity of the pelvic organs. Uterine hæmorrhage had set in two days before the operation and continued for three days afterwards. The period was due a week later. A drainage tube was inserted into the wound. It was removed in twenty-three hours. The patient made a very good recovery and was discharged on January 18th in perfect health.

The right ovary (Fig. 1), weighed one pound and a-half after much of its contents had been removed during the operation.