main truss, etc., and one or other of these contrivances generally gives sufficient relief for the patient's comfort. But I have found it necessary to have recourse to more active measures than these, and to adopt operative treatment in three of the cases which have presented themselves during the present session. The circumstances for which operation may be and has been practised, in these and similar cases, can be arranged in the four following categories:—

1. The existence of a varicocele disqualifies the sufferer from admission into the public services. This, in my opinion, is a perfectly legitimate reason for operating. One of the cases on whom I recently effected a radical cure, was that of a man in the prime of life, who, wishing to enlist in the Marines, was refused solely on the ground of having a small varicocele. This I cured by operation, and the man afterwards entered the service.

2. In cases in which the presence of a varicocele of inordinate size causes a distressing sense of weight and pain in the loins and groins, and often inability to stand or walk for any length of time, in these cases, when the patient is in continual discomfort, or more or less prevented from pursuing his ordinary avocations, in fact, quite crippled, it is perfectly justifiable to resort to operation.

3. When atrophy of the testicle is a consequence of the pressure of the blood in the veins.

4. In cases, also, where the pressure of the enlarged veins on the spermatic nerves produces repeated attacks of spermatorrhœa; and these cases, gentlemen, are by no means uncommon. These are, however, more frequently met with out of the hospital than in individuals of the class who apply to such institutions for relief. In fact, young men of the more highly educated classes are very subject to it, especially those who habitually lead a sedentary and studious life, as, for instance, young clergymen and lawyers. In these persons a peculiarly hypochondriacal state is brought on by the tendency of the mind to dwell on the condition of the genital organs, and the patient is constantly fidgeting about the local and tangible disease he observes in them. This was the case in the patient on whom you recollect I operated a short time ago for double varicocele, and who has received a better education than most hospital patients, for he belongs, in some degree, to the medical profession. His anxiety with regard to this disease, though the veins affected have been perfectly occluded by the method presently to be described, is still so great that, at his earnest importunity, I removed, last week, a portion of the scrotum which happened to be rather more pendulous than is usual, partly in order better to support the testis, and partly that his morbid feeling on this subject might in some degree be assuaged.

Now, how should the radical cure of this condition be produced? To this I would answer—By exciting adhesive inflammation of the spermatic veins, through an application of the same principle which sets up that process in the veins of the lower extremity. There are several different ways of doing this; some are very objectionable. The twisted suture, as applied to the veins of the leg, induces too great irritation in the scrotum, and there its introduction is often followed by violent inflammation or sloughing, or by an opening up of the cellular tissue of the scrotum with œdema, and even purulent infiltration. It is better, I think, not to use this method here, indeed I have twice, in the practice of others, seen it followed by death. The plan I have adopted for some years, is that suggested and practised by Vidal, a distinguished French surgeon, and is as follows:—The vas deferens, readily distinguished by its round cord-like feel, is first separated from the veins, and entrusted to an assistant; next an iron pin, bored with a hole at each end, is passed between the vas and the veins, and brought out, first notching the scrotum with a scalpel at the point of perforation; then a silver-wire, threaded on a needle so constructed that the wire shall follow it without catching, is passed in at the aperture of entry of the needle, and then carried between the integument of the scrotum and the veins, the wire is brought out at the second puncture. Each end of the wire is now passed through the corresponding hole of the pin, which is twisted round and round repeatedly, each turn causing the wire to be rolled around the pin, and so tightened till the veins are firmly compressed between the pin behind and the loop of wire in front. By this means the scrotum is quite free and uncompressed, and there is no danger of arousing inflammation or œdema. The wire should be tightened from day to day, as it causes ulceration in the veins until it has completely cut through, which results, usually, in about a week or ten days. Meanwhile there is much plastic

matter thrown out around the veins, this finally contracts, and obliterates their channels. This method is an effectual and permanent cure, as we had an opportunity of seeing in the case of a porter at this hospital, on whom I performed this operation with perfect success, for he remained here for three years after the operation, during which time he was perfectly free from any return of his disease. Of late, I have been in the habit of employing a simpler method, one which you saw me adopt about ten days or a fortnight ago. I separated the vas in the usual way, and then made a small incision, about half an inch long, in the front and back of the scrotum, afterwards passing a needle armed with silver-wire, as before described, between the vas and the veins, bringing it out behind, then returning the needle, but this time carrying it in front, between the veins and the skin, and so including the veins in a loop of wire, without implicating the scrotum. This is then tightly twisted together, so as to constrict the inclosed vessels. This plan had a similar effect to that of the wire and pin combined; by repeated tightening the wire gradually effected a passage, by ulceration, through the veins, which were obliterated by the same process.

It has been objected to this and similar operations, that atrophy of the testis may take place from its arterial branches being included together with the veins, but as the spermatic artery runs near to the vas deferens, and is held out of the way with that duct, it escapes, and the chance of that mischief is avoided. Nevertheless, atrophy of the testis may coexist, as the result of long-continued pressure of the blood in the vessels of the gland before the operation was performed.

Vacation Lectures

ON

FIBRINOUS DEPOSITION IN THE HEART:

ITS HISTORY AND PRACTICAL MEANING.

DELIVERED AT THE GROSVENOR PLACE SCHOOL OF MEDICINE.

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LECTURE II.

Conditions of Disease in which Deposition of Fibrine occurs in the Heart: Symptoms and Diagnosis of Concretion.

[Concluded from p. 125.]

THE symptoms of concretion on the right side of the heart, in their unmixt character, are sufficiently clear. I know of none more submissive to calm and considerate diagnostic skill. It is to be admitted, at the same time, that when complicated with other symptoms, these symptoms being developed in an important organ, as the lung, the diagnosis is much more obscure. In such a disease as croup, this embarrassment is markedly brought out; for the mind has to balance between those symptoms which are due to the withholding of air from the lungs, and those which are incident to suppression of blood. In such cases, physical examination best avails. If, then, such examination shows that there is distinct and persistent obstruction to the passage of air along the windpipe; if the lungs give evidence of congestion; if the action of the heart be free and regular,—the inference to be drawn is that, whatever may be in the heart, the leading indications point to the windpipe as the seat of the most important change: and this inference will be doubly strengthened if, in addition to the physical demonstrations above suggested, there be spasmodic dyspnoea instead of gasping dyspnoea; blueness or bronzed state of the skin, instead of ashy paleness; and convulsion, violent convulsion, instead of restless agitation and tremor.

Symptoms of the class here named may entirely mask those of concretion; and such masking may be present in any form of inflammatory affection of the organs of respiration; or the two series of symptoms—those, I mean, of inflammatory lesion of the air-passages, and those of concretion—may be blended, the one or the other prevailing by the accident, I had almost said, of prior development. I have thus found concretion present in cases of pulmonary inflammation, where I have not been

perfectly certain of the existence of the concretion during the life of the patient.

But in examples where there is a blending of local symptoms with those of concretion, there occurs occasionally another state well deserving of note in all inflammatory affections of the lungs or of other organs. It sometimes happens that symptoms of local inflammation of the most serious kind are delusively relieved by the occurrence of fibrinous deposition, to be replaced by the symptoms of concretion themselves, in all their dangerous significance. The reason of this reduction of the acute inflammatory mischief, as the result of the deposition, is simple enough; the deposited fibrine is cutting off the blood from all parts of the body, and therefore from the inflamed part. The active local mischief is therewith subdued: the general inflammatory fever, so called, is therewith subdued. The ancients, without knowing the cause, knew about these signs and changes, and symbolised them in their notions of critical days, and sudden recoveries and sudden deaths following upon sudden recoveries. There is much truth unexplained in old physic. Every practitioner in large practice will recall these cases, and may now connect them with a cause. He has had sometime a patient suffering from an acute inflammatory attack. The local mischief may have been pneumonia, bronchitis, erysipelas, or other of the inflammatory group. This local change may have been slight, or it may have been severe; but suddenly it has ceased; there has been, perchance, a temporary relief of acute symptoms, too sudden in its appearance to be satisfactory in its promises: it has been succeeded by all those signs which I have portrayed, and which are epitomised in one sentence, "the sinking state".

I will sketch out two examples. On the 6th September of the year 1853, I was asked to visit a child three years of age, who was supposed to be suffering from croup. I found, on examination, that this supposition was correct, and that there existed laryngeal obstruction in a marked degree; there was croupy cough; the pulse was rapid and full. On the 7th, the child was not worse; the breathing, indeed, was rather more free. On the morning of the 8th, the father of the patient came for me early, saying that his child had become much worse; the croup had ceased; but he thought the heart must be affected, as the throbbing quite raised the bedclothes. I went immediately; and there the fatal symptoms certainly were presented. Consciousness was lost; the pupil was dilated; the body was universally pale and very cold; the breathing was short and gasping, but free; the heart was beating violently against the chest; the face was extremely anxious; the limbs were restless to the last degree. At one in the day, the little patient was lying flat on his back, much more quiet, with the circulation irregular. At two, life was extinct. There was no difficulty of diagnosis here. The inflammation had been supplanted by deposition, and threatened asphyxia had given place to inevitable syncope. At the *post mortem* examination, the laryngeal, tracheal, and upper bronchial membranes were found injected and coated with a thin semitransparent secretion; but patent, and narrowed by no fibrinous layer. The lungs were inflated, perfectly pale and exsanguineous; they floated readily in water. The pleural membranes were normal. The right auricle was distended, and had a dark, deeply congested appearance. On opening it, it was found to be completely engorged with a firm fibrinous concretion, extending by a prolongation through the ventricle into the pulmonary artery.

Here, then, is a case exemplifying what I have said. Previously to the visible development of the sinking symptoms, the pulmonic derangement seemed to be relieved. The pulmonic symptoms were relieved; for, at the time when the breathing became easier, a gentle check was being put on the pulmonic circulation by the concretion: the local mischief progressing in the lungs was thus arrested as by a venesection, to be replaced, however, by symptoms virtually analogous to the symptoms of hæmorrhage.

There is another modification of relationship between the symptoms of local inflammation and those of concretion, in which the local inflammatory symptoms again become subdued, to be followed by the signs of concretion, but by these in a prolonged and less acute form. The following history shows better than a bare summary of facts the kind of case to which reference is now made.

A child, fourteen months old, came under my care on December 6th, 1852, suffering from bronchitis. He was treated with antimony. On the third day after my first visit, the substance of both lungs became affected, and pneumonic crepitus could be heard at the base of each, especially on the

posterior part. On the 10th, the breathing was relieved; and the crepitus was less distinct, and had not extended. On the following day, the body of the child became universally pale; the limbs were restless, and the breathing short; the signs of exhaustion were more manifest; antiphlogistic treatment was stopped, and was replaced by doses of the decoction of cinchona, with citrate of ammonia. On the 12th, there was no improvement, and the bowels were inclined to be disturbed. The bark and ammonia were continued. On the 13th, the bowel derangement continued; the pulse was irregular; the feet were œdematous; and the motion of the heart was tumultuous. Chalk powder was added, with mucilage, to the bark mixture. On the 14th, the symptoms were nearly the same; but the hands were now also œdematous. The same treatment, and a full supply of nutritious food, were continued. On the 15th and 16th, the exhaustion became still more marked, and the whole body was œdematous. The urine, however, showed no evidence of albumen, but was loaded with lithates. The surface of the body was peculiarly cold; consciousness failed; and the restlessness continued. During the whole period, the lungs were carefully examined; and, although the respiratory murmur was feeble in parts, there was evidently sufficient lung in play to support life, and there was not in the general symptoms the slightest evidence of imperfect respiration or asphyxia. On the 17th, potassio-tartrate of iron was ordered; but, in a few hours, death put an end to all treatment. At the examination, twenty-four hours after death, the body was unusually rigid. The brain and its membranes were carefully examined, and no sign of disease was found in them; but in the longitudinal sinuses two threads of fibrine were detected. There was no effusion into the pleural cavity. The lungs in parts presented a white blotchy appearance; the bronchial membrane was healthy; the lung-substance was œdematous. There was no purulent deposit in either lung. The pericardium was natural. The right auricle of the heart was dark and distended. It contained two distinct fibrinous concretions; the one was firmly adherent to the cardiac walls at the upper and right corner of the auricle; the other was attached to the left wall; but they were both so placed that they did not altogether arrest the current of blood passing through the heart, though they must have impeded it materially. On the left wall of the pulmonary artery, at its root, there was spread out a thin layer of fibrine; so thin, indeed, and so beautifully adapted to the cardiac structures, that it would have escaped attention altogether, had it not been accidentally raised with the forceps. The concretions in the auricle were firm, and completely freed from blood-corpuscles; they filled up three-fourths of the distended cavity. A very small concretion adhered to the upper part of the left auricle, and a thin filament ran along the aorta. The spleen was very much congested, as were also the other abdominal organs; but no trace of organic change could be detected.

This case, which I watched with intense interest, exhibited symptoms which were to me very peculiar during life, though sufficiently obvious after death. On the day when the first symptoms of exhaustion came on, the pallor of the body and the tumultuous action of the heart led me at once to diagnose a concretion in the right cavities of the heart; but whether it was possible in any case for a concretion to form in such a manner as to obstruct partially the blood passing through the heart, and so lead to congestion of the abdominal viscera, to serous purging, and to general œdema of the body, was a question I could not answer, from want of a precedent. The inspection of this case offers that precedent, and confirms in every way the view that, when fibrinous deposits are formed in the acute stage of the inflammatory process, the local and general inflammatory action may be suspended; and, further, that fibrinous deposits in the heart, not sufficiently large to obstruct the circulation immediately and cause rapid death by sinking, may obstruct the blood-current to such an extent as to give rise to œdema, and in the end to induce death in a manner similar to valvular disease.

In the preceding observations on symptoms, we have observed the nature of the symptoms of concretion in cases either where there has been no manifestation of local inflammation, or where the specific signs of local inflammation have been superseded by those which mark deposit. To these observations I would add, that there are a class of cases in which local inflammatory changes precede the processes of deposition, but are themselves so obscure or so slight that they are passed over, or are treated as of too light a character to receive particular attention. I will narrate as briefly as possible, from observed cases, two illustrations.

A man of forty years, a healthy man previously, was taken with what he called "a cold". He next complained of a dull heavy pain in the back, and of a general languor. He had a pulse at 80, and a dry tongue. This condition lasted fourteen or fifteen days; it did not altogether confine the man to his house. Suddenly he became worse. He felt no acute pain; but his countenance was expressive of great anxiety; his breathing was hurried; his pulse was so quick, so irregular, that its time and force could not be estimated; the action of his heart was tumultuous; the secretions remained natural. These signs lasted forty-eight hours; then the lungs began to show evidence of congestion; and this congestion, gradually increasing, was sustained for a succeeding day and a half. The patient had occasion to rise from bed: in returning, he sank on the bed; he was dead.

The *post mortem* examination here revealed the immediate cause of death, in the presence of a large, firm, adherent, fibrinous concretion in the right ventricle, extending into the pulmonary artery. It also revealed more: it explained that there had been long pre-existent inflammatory change; that there had been splenitis, for the spleen was entirely disorganised from purulent exudation.

A lady was seized with cold; she had slight shivering, followed by febrile excitement. The following day there was the merest blush of erysipelas on the ear. The redness progressed a little that day, but was considered too slight to cause alarm. Some fifty hours after the appearance of the local change, this lady felt an uneasiness, oppression, faintness, and dyspnoea, "creeping"—as she expressed it—over her. A stimulant was given, but it was of no avail; from sitting up in her room, she retired to bed, and in six hours she was sinking. She was sinking, according to an explanation which I readily excuse, from suppressed erysipelas; and, indeed, the disappearance of the redness from the ear, as the supply of blood was cut off, favoured so crude a notion strongly. She was sinking, according to fact, from the formation of concretion in the right side of her heart. To relieve the dyspnoea, opium was given, which served truly to soften the agony, but to clench the result. Death occurred within twelve hours from the date of the sinking indications, and the *post mortem* examination revealed the concretion on the right side: a large concretion, filling the auricle, prolonged into the ventricle, and curved upwards into the pulmonary current.

Am I not writing the experience of all practitioners in the above cases? Except that the local mischief commenced on the mucous surface of the air-passages, instead of the skin, the case of the Emperor Nicholas, late czar of all the Russias, was of the kind I have now told. The armies of two great nations, at that crisis, rolled against him harmlessly; so simple a physical act as the deposit of a poor scruple or so of fibrine from his own royal blood dethroned him.

When a fibrinous concretion is deposited on the left side of the heart, the ventricle, the infundibulum, and the ascending portion of the aorta, are the most common positions. The general symptoms which characterise the presence of concretion here situated are different in many respects from the preceding. There is suffocative dyspnoea, with expectoration of mucus sometimes mixed with blood; the surface of the body is of a leaden colour, and the body is cold. The muscular perturbation lapses into powerful convulsions, and coma precedes dissolution. These symptoms may extend over many hours; or, as in the preceding class of cases, they may also occur in a sudden manner. The patient, in moving or making a straining effort, may suddenly fall back, may be seized with a violent convulsive fit, and so expire.

I once saw these symptoms and this sudden form of death in an old lady who had previously suffered from no other ailment than a slight attack of cold. In rising from bed, she fell back, and died convulsed, before medical assistance could be obtained. In this case, the concretion had formed as a hollow cylinder in the infundibulum of the left ventricle, had become dislodged, and had been carried into the aorta, which it entirely occluded.

The physical signs of concretion on the left side, in so far as the heart is concerned, are not materially different in reference to the systolic and diastolic sounds from those which attend deposition on the right side. For, if the right side of the heart is free, the two sets of valves on that side are all sufficient to produce the two sounds; so that a mere reduction in the intensity, or rather the fulness, of the normal sounds, is the only probable modification. There is, nevertheless, a distinction in the action of the heart. When the concretion is on the left side, the action of the heart is much more violent, irregular, and tumultuous.

There is also a difference in regard to the physical signs of disease in the lungs; the lungs are never emphysematous; they are always congested, the congestion being most decided and extensive. Corresponding with this condition, the dyspnoea is not the syncopical dyspnoea which we observed in the previous cases, but a dyspnoea rather of the pneumonic type, laboured, but free from gasping; the oppression veritably is in the lungs, and is so expressed by the patient.

Death is less easy than in the cases where the concretion lies on the right side, or, at all events, is not so easy to appearance. There is coma, but therewith there is struggling, violent convulsive struggling, to the end. Death takes place often in the convulsion occurring by a mixture of syncope and asphyxia.

There are yet another series of cases in which concretion occurs on both sides of the heart at the same time. In these examples, it is to be observed that the signs are, generally speaking, those of concretion on the right side. If there is any distinctive sign of double clot, it is in cases where the valvular mechanism is interfered with by the deposit in the two corresponding sets of valves, the ventricular or aortic. When this is the case, the systolic or the diastolic sound may be lost altogether, according to the sets of valves obstructed in their play by the deposition upon them.

Illustrations

OF

HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

UNIVERSITY COLLEGE HOSPITAL.

SYPHILITIC TUMOUR OF LIP.

Under the care of RICHARD QUAIN, Esq.

[Reported by W. L. WINTERBOTHAM, Esq., House-Surgeon.]

ELIZABETH M., aged 45, was admitted into University College Hospital, under the care of Mr. Quain, April 29th, 1859.

History. She is a native of Devonshire, but has lived in London six years. She is married, and has three children. The patient enjoyed good health till ten weeks ago, when, for the first time, she perceived a hard swelling in her lower lip, of about the size of a pea, which subsequently turned to a sore. This increased in size; and, in a fortnight afterwards, the glands beneath the chin began to enlarge. She was advised to poultice and foment it, which she did, but without effect. At the same time, her throat became painful, and she experienced difficulty in deglutition. She then applied at the Hospital.

Present State. On the anterior surface of the lower lip projects a tumour, of about the size of half a marble; it extends from the middle line to the left side. The whole of the proboscium is involved, as well as a little of the skin below it. The substance of the lip is engaged in the disease, so much so that only a very thin portion of mucous membrane is free from induration. The outer surface is fissured in one or two parts, and is generally slightly rough. Beneath the symphysis of the chin, and a little behind the anterior part of the curve of the lower maxillary bone, is a tumour, two inches in breadth from side to side, and of about the thickness of the thumb. The skin over it is free from disease; and it is found to be divided into several small masses, evidently consisting of enlarged glands. The glands at the root of the neck above the clavicle are not enlarged; but there is a suspicion of fulness, on touch, of those on the right side. The patient admits that there are at present small sores about the pudenda, but no enlargement of the glands in the groin; that she has had a brown eruption over her whole body, and also small sores about the head. There are at present the remains of a liver-coloured eruption slightly marked, on the forearms, especially the left, evidently maculæ syphiliticæ; also slight remains of papular eruption on the breast. The tonsils on both sides are enlarged, and there is some superficial ulceration; while behind the left mastoid process are two enlarged lymphatic glands. She was ordered to use a gargle of alum and honey, and to take the following:—

R. Acid. sulph. dil. ʒij; liq. cinchonæ ʒij; mist. camph. ʒvj. M. Sumat ʒss ter die.

May 4th. She is much better. The countenance is less