Cases of spasmodic disease accompanying affections of the pericardium / by Richard Bright.

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Publication/Creation

London : printed by R. Kinder, 1839.

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CASES

OF

SPASMODIC DISEASE

ACCOMPANYING

AFFECTIONS OF THE PERICARDIUM.

By RICHARD BRIGHT, M.D. F.R.S.

PRESIDENT OF THE SOCIETY,

PHYSICIAN EXTRAORDINARY TO THE QUEEN, ETC.

FROM THE TWENTY-SECOND VOLUME OF THE MEDICO-CHIRURGICAL TRANSACTIONS, PUBLISHED BY THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON.

LONDON:

PRINTED BY RICHARD KINDER, GREEN ARBOUR COURT, OLD BAILEY.

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READ NOVEMBER 13TH, 1838.

The cases to which I shall now take the liberty of calling the attention of the Society are, in some respects, sufficiently interesting. They are three in number, and have occurred to me in the course of practice within a short time; two of them within the present year, and the third somewhat earlier. They are cases which differ very essentially from each other; yet all unite in illustrating, in a striking manner, a particular point with regard to the symptoms of disease, which cannot be indifferent either to the physician or the surgeon. The symptoms to which I refer are essentially spasmodic, and depend, as I conceive, on irritation communicated to the system from lesions within the chest.

All the cases will be found to agree in the great extent to which certain portions of the nervous system were involved, the irritation of which might, in

two of them at least, be looked upon as the cause of death; and in the third bore no small part in the exhaustion of the patient. In each of the cases the pericardium was importantly implicated, and there was reason to think that the phrenic nerve was the more immediate means of communicating the irritation to the spinal cord.

The nervous affection has been in each case of a spasmodic character, but has presented such a variety of aspects as, on that account, to afford interesting matter for reflection. In one case it was *chorea;* in a second it was *trismus*, terminating in *epileptic convulsion;* and in a third case, modified by the sex of the patient, it assumed more the appearance of *hysteria.*

CASE I.

The first case which I will relate is one to which I was summoned in consultation with Mr. Girdwood, and our late lamented fellow, Dr. Sims, on the 5th of April 1836. It was the case of a young man, seventeen years of age, who, about twelve days previously, had begun to complain of general rheumatic symptoms; pains in the limbs, with puffiness and swelling of the wrists, and some other joints, but the symptoms were not strictly those of acute inflammatory rheumatism. When all this was rather subsiding, about six days before I was called, peculiar spasmodic symptoms were said to have arisen, which had increased up to the time at which I first

saw him, when I found him labouring under the most fully marked symptoms of severe chorea, except that the convulsion was more violent than is almost ever seen in chorea. His head was constantly thrown from one side of the bed to the other. His lips were closed, and opened with a smacking sound, and when desired to put out his tongue it was protruded with all the forced grimace and difficulty observed in chorea. The pulse was weak, and varied from 108 to 120, and there was an occasional sharpness followed by a feebleness and a variation in the beat, which induced us to pay attention to the action of the heart, but led to suspicions, rather than conviction, of that organ being more than functionally implicated in the disease; for we found in the excessive convulsion of the whole muscular system, sufficient to account for a great deal of the disturbance which there was in the circulation, and in the heart's action in particular.

For two or three days our remedies appeared to alleviate his symptoms, so that for a day or two it was not considered necessary to meet in consultation; but the relief was very temporary. The chorea became more severe, and the spasms put on the character of the most violent convulsions. There was likewise some wandering of mind, his apparent incoherence being however certainly increased by the convulsions and contortions of his mouth, which rendered his utterance difficult and his words indistinct. His condition after this became such that some degree of personal restraint was absolutely ne-

cessary, and I found that this had been adopted when I renewed my visit. The swellings at the wrist and on one hand again increased; he grew worse; and on the 15th, being about the sixteenth day after the first spasmodic symptoms, he died.

The body was examined on the following day, when we found the heart, pericardium, and contiguous parts of the lungs, almost exclusively the seat of disease. The heart was adhering to the free pericardium, by the most profuse effusion of firm semitransparent gelatinous fibrin. This was particularly the case about the base of the heart, while towards the apex the effusion was rather an opake serum. The substance of the heart was red, and the semilunar and mitral valves had each a fringe of vegetations, doubtless rather recent, forming a raised irregular line along the auricular side of the mitral, and along the aortal side of the semilunar valve. The lining membrane of the membranous portion of the auricle seemed to have a thin false membrane upon it. The edges of the lung which lay on the pericardium were slightly adherent to that membrane by inflammation. The brain and the abdominal viscera were most carefully and minutely examined, and all found perfectly healthy.

CASE II.

I was requested by Mr. Balderson, on the 6th of June 1838, at 11 o'clock at night, to see a gentleman under the following circumstances:—

It appeared that on the first of the month, after some imprudent exposure to cold, he was seized with pain in the right side, and swelling apparently rheumatic of several of the joints. He did not, however, send for medical assistance till the 5th, the day before I saw him, when Mr. Balderson being called, found him labouring under severe pain of the right side passing upwards to the shoulder, with a full pulse. He immediately bled him freely from the arm, and the blood was moderately buffed. The following morning venesection was repeated, on account of the continued difficulty of breathing, and the inability to lie down in bed; but the shortness of breathing seemed to increase, the pulse became quick and irregular, and often indistinct, and he complained towards the evening that he had a difficulty in swallowing. When I saw him first at 11 o'clock at night, this last symptom was so distressing, accompanied with so much difficulty in opening the mouth, that I was led to inquire very particularly, whether he had received any prick or wound which might be producing tetanus, spasm, or trismus, but I could discover nothing except a blow and cut received nearly six months before over his left eyebrow, but which had healed without difficulty, or subsequent ill consequences. I saw him swallow, although with much effort, and with a kind of convulsive catch. I found his heart running on very fast, and acting spasmodically, but could discover neither rubbing sound, nor any bruit. He had no cough, and at that time I detected no pneumonic

crepitation in the lungs; the skin perspired very freely.

Considering all the symptoms, I could only come to the conclusion, that it was a case where rheumatic inflammation had affected the diaphragm, and probably the pericardium; and as the two bleedings had afforded no relief, and the pulse was rapid and faultering, and a blister was already applied to the pit of the stomach, it was agreed to give the combination of calomel, antimony, and opium, every two hours, or every four, according to circumstances, to apply mustard poultices freely to the chest, and to open the bowels, which had been confined for some days, by purgative draughts.

About 2 A.M. Mr. Balderson was called up to see him, on account of the rapid increase of the tetanic symptoms, and found that he had only been able to take one pill and one of the purgative draughts, and now his teeth were completely closed. At 9 A.M. I again saw him, and found him propped up in bed. The anxiety of countenance was excessive; the state of trismus was complete; so that it was impossible to to get anything into his mouth, and his deglutition so completely interrupted that he was unable to swallow his saliva, and it was with the greatest difficulty he could get rid of it as it collected in his mouth. There were likewise some slight indications of opisthotonos and spasmodic action of the muscles of the back. His bowels had been twice relieved; his pulse was very rapid, often quite indistinct. We ascertained distinctly that there was some pleuritic

effusion, with a rubbing sound, and likewise some pneumonic crepitation at the lowest part of the left lung; but from the distressed state of the patient, and the difficulty of examining the right side in the position in which he lay, I did not think it right to trouble him further; more particularly as the state of his pulse and his skin appeared at the time to prohibit further depletion.

A blister was ordered to the nape of the neck, and the blistered surface on the chest to be dressed with mercurial ointment; a dram of the stronger mercurial ointment was also to be rubbed in every hour on the thighs; a suppository of three grains of opium to be introduced into the rectum; and if at any time the relaxation of the spasm would permit, he was to take pills of calomel, tartarized antimony, and opium, as before ordered.

At half-past 2 o'clock P.M. I again saw him. Every thing had been done most strictly as was ordered, but there had been no relaxation of the spasm, and within the last two hours he had experienced two severe convulsive seizures, and another came on while I was present. It was quite epileptic in its character, and the countenance became purple and suffused—the eyes strained—the whole body convulsed. His pulse was very feeble, and his skin bathed in a most profuse perspiration. He was quite aware of his situation, though he rambled occasionally. He suffered three more distinct epileptic attacks, and died at 5 o'clock P.M., within twenty hours of the first appearance of the symp-

toms of dysphagia, on which the trismus and convulsions had rapidly followed.

Sectio cadaveris, fifteen hours after death.—The lungs were somewhat gorged with blood, but were quite crepitant and pervaded by air, except a small flap of the lower lobe of the right lung, where it rested on the diaphragm and a still smaller portion of the lower lobe of the left lung. In the edge of the right lung there was a small portion, which broke down easily under pressure. The lower half of the right pleura, as it covers the ribs and extends over the whole diaphragm, was highly inflamed, and covered with a thin coating of fibrin. The inflammation was, however, still more marked as it ran up towards the root of the lung and covered the right side of the pericardium, where the phrenic nerve was seen winding its way down the membrane in the midst of the most intense indications of inflammation, and as it ran over the diaphram was covered with shreds of recent false membrane. The left pleura was also inflamed, and a chamber was formed at the lower part just where the diaphragm forms an angle, containing about half an ounce of straw-coloured serum intersected by bridles of recent lymph. We discovered no other morbid appearance. The head and spine were not examined.

The two cases which I have now related are full of matter for interesting consideration, and in a practical point of view afford examples of the combination of inflammatory affections with convulsive symptoms, capable of masking each other in a man-

ner which it is most important to bear in mind. In the former of these cases the inflammation of the pericardium was but darkly conjectured even to the last. In the latter case the inflammation of the pleura and diaphragm was much more early predicated, and yet the obscure story of a cut upon the forehead six months before had its weight on our minds in a case so exactly resembling traumatic trismus, and probably in some degree paralysed the desire for more large depletion; from which, however, I do not believe any benefit would have resulted, considering the complete relaxation of the pores of the skin, and the state of prostration to which the pulse was already reduced by the two previous bleedings. At the same time, when we find on examination the results of intense inflammatory action, it is not possible to feel confident that bleeding, even in the very advanced stages, might not have been serviceable. Had the state of the patient been such as to permit of the regular administration of medicine by the mouth, I have great confidence in the effect which calomel, antimony, and opium would have produced; and this combination is, perhaps, a more appropriate remedy than large bleeding under such circumstances; but whatever the remedy we may feel inclined to adopt to overcome the disease, the great and important point is to impress upon our minds the fact, that the most violent attacks of spasmodic disease will occasionally owe their existence to inflammation of that portion of the pleura and the pericardium, where inflammation is often with diffi-

culty detected—that part more particularly where the phrenic nerve in its course or its distribution is to be found.

I have still under my care a lad whom I admitted into the hospital five weeks ago, with rheumatism slightly affecting the joints, but more materially the muscles of the chest. His whole aspect was so strikingly that of trismus, that I greatly suspected that this disease was coming on. The peculiar knitting of the brows, and, above all, the complete drawing down of the angles of the mouth when an attempt was made to protrude the tongue, (which could be done but imperfectly,) led me to this fear; but under the free use of calomel, antimony, and opium, he has become completely convalescent, and is taking the sulphate of quinine, and walking about the ward; but still there is great irritability of the heart.

With regard to the connexion between chorea and inflammation of the pericardium, when called upon the year before last to deliver the Lumleian Lectures at the College of Physicians, I took occasion to state, that for some years I had been persuaded of the existence of such a combination, and little attention has hitherto, as far as I know, been paid to the subject, although the combination of this spasmodic disease with rheumatism has been long recognized. In the very excellent "Syllabus, or Outlines of Lectures on the Practice of Medicine," published at Guy's Hospital, I find, in the edition of 1802, rheumatism distinctly stated as one of the existing

causes of chorea; and in later editions, as in that of 1820, I find it stated, that " chorea sometimes alternates with acute rheumatism," but through what organ or by what intervention this occurs is not conjectured. In the 15th volume of " The London Medical Repository," published in 1821, a case is stated by Dr. J. Copland, in which this alternation took place, and was succeeded by complete paralysis, and in this case both effusion had taken place into the pericardium, and the most marked and extensive deposit upon the spinal theca. This, however, did not lead to any decided remarks upon the connection of the chorea with the pericarditis, but throughout the spasmodic disease appears to have been referred very much to the affection of the membranes of the spinal cord, and the same appears to be the view of the author in his late more elaborate dissertation, included in his most valuable work on practical medicine; and he enumerates amongst the exciting causes of the disease, " metastasis or extension of rheumatism to the membranes of the spinal cord ;" but does not refer to a similar metastasis to the pericardium as being an exciting cause. Speaking, however, afterwards of the treatment of the complicated and irregular states of this disease, he says, " The association of this disease with rheumatism has been observed by me on several occasions, and in nearly all there has been a marked disposition of the rheumatic affection to recede from the joints or extremities, and attack the internal

fibro-serous membranes, as those of the cerebro spinal axis, and the pericardium."

Dr. Copland also refers to some cases and dissection by Dr. Prichard, of Bristol, published in the twenty-first volume of the "London Medical Repository," in which, however, though the heart was found adherent to the pericardium in the only case in which the state of those parts was referred to, yet the author considers the chorea as depending on the inflammation of the membranes of the spine.

Having had my attention all my life, through the lectures of Dr. Babington, Dr. Curry, and Dr. Cholmeley, directed occasionally to this subject, it has occurred to me to see many cases of the combination and alternation of rheumatism and chorea, and some which have convinced me that amongst the causes of chorea, however numerous they may be, (and some undoubtedly belong to far distant parts of the body,) inflammation of the pericardium has been one.

The case which I have just detailed is the most striking with which I have met, because the dissection, which showed so great a share of disease in the heart and pericardium, failed to give the slightest trace of disease in the membranes or the substance of the brain, or medulla oblongata, or the upper small portion of the chord which was examined; but I have met with a great many others, in which the inflammation of the pericardium could not be

doubted; in which, however, the total absence of anything like the paralytic state, described by Dr. Copland in his interesting and complicated case, leads to the belief that the membranes of the cerebro spinal axis were not materially implicated.

I was called to see a young lady, in consultation with the late Dr. Lister, about twelve years ago. The catamenia had been irregular, and she had suffered from rheumatic affections of the joints, though not in the genuine form of severe rheumatitis; several of the joints were puffy, slightly inflamed, aching and tender; and she had now begun to show symptoms of involuntary motion—the movements and actions, in fact, of complete chorea. The heart was agitated, and to it the chief uneasiness was referred; the pulse was hurried and irregular; on listening to the heart a "frottement" was distinctly heard. I had no doubt of the inflamed state of the pericardium. Remedies were applied, both local and general, under this impression, and the lady recovered completely, and is now living, the happy mother of a family.

Very shortly after this I had a case under my care, in the Clinical ward, of a man belonging to a public-house, who, in the midst of his daily exposures, had become the subject of a form of rheumatism, very similar to that I have just mentioned in the last case, and what served still more to render the cases similar was, that in both it was accompanied by an eruption of the roseola annulata. This man also became the subject of peri-

cardial inflammation and of chorea, and got slowly well.

I had a young woman under my care, about two years ago, with acute rheumatism. Her cure went on steadily and well, but I went one day expecting to find her convalescent, when I perceived some peculiar movements of the hands which made me suspect the approach of chorea. I examined her heart, and found symptoms which, in connexion with the previous rheumatitis, left no doubt on my mind that the pericardium was inflamed. I put her on the use of calomel, and opium, and tartarized antimony. The chorea went on to its complete development in a few days, but both that and the rheumatic affection of the heart gradually subsided, and she left the hospital well.

In some of these cases there might, perhaps, be a doubt of the correctness of the diagnosis, as regards pericarditis; but I was consulted about two years ago in a case where, unfortunately, there was no room for doubt. It was the son of a medical practitioner, about eleven years of age, and in addition to the most unequivocal signs of the lesion which the heart had suffered, the breath was becoming short and oppressed, and the feet were beginning to swell. The history of this poor lad was shortly as follows:—within the last two years two very severe attacks of rheumatism, in both of which most direful inflammation of the heart took place, and with each attack chorea, so severe that he threw himself from one end of the bed to the other, and required the

constant care of more than one attendant to prevent his injuring himself. He has greatly improved in all his symptoms.

I have at this time a lad under my care in whom the same alternation of disease has taken place, and who is now labouring under rheumatism, though his chorea has left him.

In short, the instances are very numerous; and though I doubt not that in some cases the coverings of the cerebro spinal mass may be, and are, implicated, yet I believe that the much more frequent cause of chorea, in conjunction with rheumatism, is the inflammation of the pericardium, and that the irritation is communicated thence, probably, to the spine, just as the irritation of other parts, as of the bowels, the gums, or the uterus is communicated, and produces the same diseases; for I do not at all incline to the belief, that inflammation, in or about the spine, is necessary to induce chorea.

The third case which I wish to submit to the Society is of a character altogether different from the two former, and serves to show how symptoms may arise in chronic disease when the pericardium becomes implicated, which may give a peculiar aspect to the case, and embarrass the diagnosis.

In the month of May 1838, I was requested by Mr. James Ridge to meet him in consultation, in the case of a young lady only seventeen years of age, who, three months previously, had first begun to complain of a pain in the right foot and knee, and then in the groin, and extending up the side, so

that it was supposed that the liver might be in fault, and slight mercurial action was induced; after this the pain became less, and a fulness in the iliac region and the groin seemed to diminish. Three weeks before I saw her some of the inguinal glands enlarged, and since that some of the glands of the neck and under the left ankle; and for the last ten days a very hard swelling had taken place near the tuberosity of the ischium on the right side. It was quite plain that very extensive glandular disease was taking place; and although she had already lost one of her sisters of phthisis, as it was supposed, yet the general diffusion of the disease, without any pulmonary symptoms, seemed to render it probable that this was even more serious than simple tubercular disease.

She was ordered to go into the country, to keep up her general health as much as possible, and to take sarsaparilla.

She was removed to Brixton, but I was again requested to see her on the 19th of June; all her symptoms having been increasing, and, in addition to the rest, she had become the subject of the most alarming attacks of dyspnæa, coming on generally in the middle of the night with agitation and shaking, and apparent convulsion of the diaphragm threatening death, and resembling an aggravated form of hysteric convulsion. I could now feel an abdominal hardness like a tuberculated omentum, and there were now to be discovered a string of small very hard glands, tender to the touch, running along

the back on the left of the spine near the lower dorsal vertebræ.

I saw her occasionally after this: the attacks of dyspnæa and convulsion returned frequently at night, and assisted in wearing her out gradually, and she sunk upon the 9th of July.

Sectio Cadaveris.—The body was greatly emaciated. There were some subcutaneous tumours on the chest and abdomen. They were small, oval, flat, and some of them were softening at their centres.

Chest and lungs quite free from all tubercular deposit. The surface of the right lung had upon it several small hard malignant deposits, which, in one part, formed a fringe round the edge of the lung. The heart and pericardium formed a hard mass, firmly glued to the sternum by the white fungoid matter deposited in the anterior mediastinum, so that on raising the bone they were round like a hard tumour attached within.

The heart itself presented a curious specimen of disease: a thick layer of yellow malignant matter lined and covered the pericardium, both the portion attached to the heart and the reflected portion; the two deposits were strongly glued together in most parts, and were a quarter of an inch in thickness. In other parts the two layers were easily torn from each other. The phrenic nerve was seen on the right side passing down, pressed upon, and almost embedded in this diseased mass.

A very correct representation of the section of the heart, when the apex and about one-third of the organ had been removed by a transverse section, may be seen in Plate I. In the abdomen, the glands of the mesentery, and the glands along the iliac vessels and up the spine, were all greatly enlarged and impregnated with yellow fungoid matter, forming large masses, particularly about Poupart's ligament. The ovaries on both sides were completely fungoid. The left was of the size of an orange, formed of rounded masses, soft, and in some parts cerebriform; in others, approaching to the hæmatoid form of fungoid disease. The right ovary was of the size of a very large gooseberry, and contained one or two decided malignant tubera, situated almost as if developed in the Graafian vesicles. On the broad ligaments were two or three small malignant deposits; and the Fallopian tubes were fleshy, thick, very vascular, and red.

That the peculiar and very alarming train of symptoms which assisted in wearing out this patient, depended on the condition of the heart and pericardium, I think there can be no doubt; and the nature of the attacks would render it probable that the phrenic nerve was more particularly implicated in the irritation produced. It is my full conviction that I have had a similar case within the last year in a gentleman, whose symptoms were very obscure, but accompanied by most frequent and distressing agitation of the diaphragm,

coming on in paroxysms chiefly at night, and reducing him to the utmost state of debility and exhaustion; as, however, in this case no post mortem examination was permitted, the cause of these paroxysms must ever remain matter of speculation.

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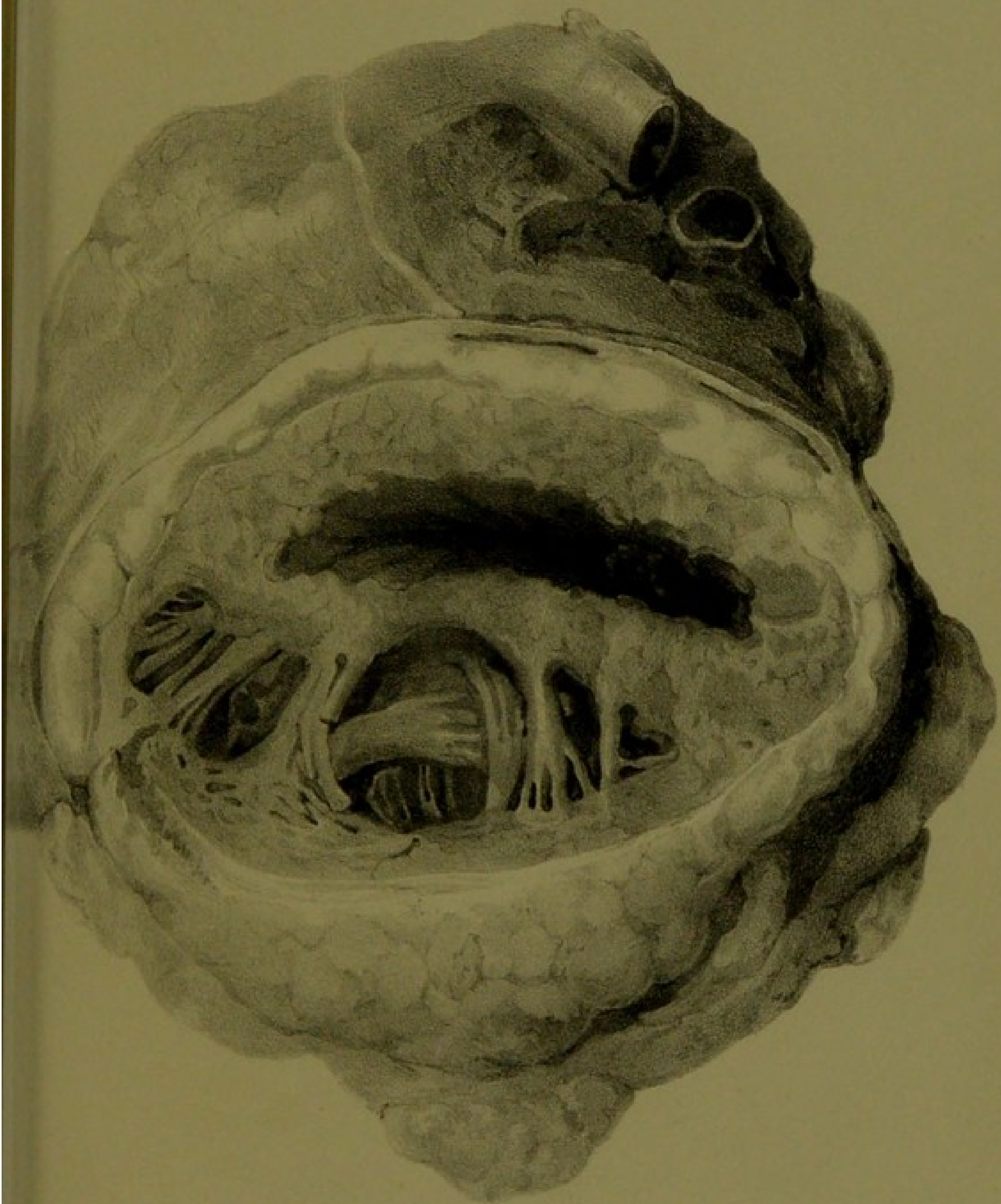

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