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COURSE OF CLINICAL LECTURES, DELIVERED AT THE MIDDLESEX HOSPITAL. BY DR. WATSON.

Lecture IX.—December 10, 1842.

GENTLEMEN,—I have this day to address myself to a case which has terminated fatally, in the person of a boy who lay in Peppy's ward, as you remember, in a very distressing condition. This boy, named John Windsor, twelve years old, was admitted on the 22nd of November. He then looked pale and very ill; his features were pinched and expressive of great suffering; his tongue dry; his lips and teeth black with sordes; his pulse so high as 124; he complained of being in pain "everywhere," and lay with his lower limbs flexed towards the trunk; pressure on the abdomen increased his pain; he had cough, also, and pain in the precordial region.

It was stated by his brother, that a fortnight before he had been attacked with flushes of heat; shivering and pains in his bones; and a week before his admission the pain in his abdomen began; his bowels had been much relaxed, the stools were reported to have been very unnatural, of a greenish color; his urine was plentiful but high colored; he had been somewhat delirious for several days, and especially so for several nights.

After his admission you saw him; his tongue became and remained clean, and he answered questions rationally, though always in a very complaining manner, and with a pitiful aspect, as though he was in much agony. It was soon found that his left hip was swelled a little, and there was some fulness and tenderness in the right loin. He could not attempt to extend his legs without appearing to suffer greatly; the hip and the back were excessively tender; indeed, wherever he was touched he called out that he was hurt—whether the pressure, however slight, was made on the shoulders, the abdomen, the hips, or the limbs generally.

At its first aspect, this case looked like a case of continued fever simply; but it soon became plain that he was laboring under a still more serious disorder. You may remember my having observed to you, more than once, that the poor boy must die, and that probably we should discover suppuration and extensive mischief in various parts of his body, and especially in his joints. Nothing administered did him any good; no treatment afforded him relief. For a short time, indeed, his bowels were improved in condition, but that amendment was temporary, and very transient. He gradually became weaker; incontrollable diarrhœa set in; his pulse rose to 140; and on the 7th inst. he expired.

On the next day his body was examined. Here is Mr. Anthony's report of the examination, which I shall read:—

Head.—The sinuses and veins of the pia mater were distended with blood, but there was no serous effusion into the ventricles, or elsewhere; the cavity of the internal ear on both sides was examined, but nothing unnatural observed.

Thorax.—Upon the removal of the sternum, a quantity of pus gushed from the left pleura. Lymph was deposited in patches upon the pleura, covering the lower lobe of each lung; the pericardium was distended with a large quantity of clear serum; and on the surface of the heart were some granular deposits of coagulable lymph; the inner surface of the heart was nearly, or perhaps quite, healthy.

Abdomen.—The viscera and intestines were healthy, but when the left mesocolon was raised, and turned back towards the right side, a large bag of matter came into view between the peritoneum and the fascia transversalis. This communicated with similar purulent collections in the pelvis, alongside the rectum.

Spine.—The spinal cavity was laid open from behind, and in its whole length the theca was separated from the medulla by pus.

Joints.—Both hip-joints were full of pus; so was the right shoulder; there were abscesses in the cellular tissue near each wrist; the knee-joints were free from pus.

The Veins were carefully examined—the larger veins nearly all of them; in a portion of the left axillary were some slight traces of inflammatory action, and two of the communicating veins were blocked up by fibrin. The cellular tissue about the insteps and ancles was cedematous. There were no collections of pus in the substance of the brain, lungs, or liver.

This has been a well marked instance of a very frightful and fatal malady; inflammation mostly, but not necessarily, going on to suppuration in various parts of the body, and produced (so we believe) by the mixture of pus, or of some other morbid product or morbid secretion, with the circulating blood. It is this malady which gives to many fatal injuries, and to many—nay, to most fatal operations, their mortal character. It is of surpassing importance, therefore, to the surgeon; it is the same malady which gives origin to so many fatal cases of puerperal fever; it is, therefore, of the deepest interest to the accoucheur; it is scarcely of less interest to the physician.

These scattered inflammations—these collections of pus, disseminated through the body—occupying here and there the liver, the lungs, the brain, the cellular tissue, the muscles, the serous cavities, the joints—can scarcely be accounted for, but on the supposition that the blood, which reaches all those parts, is vitiated. It is unlikely, in the highest degree, that in-

inflammation should simultaneously occur in so many separate and distant spots without some such link of connection. Pathologists, Cruveilhier especially, have experimented on this subject; they have injected pus into the veins of living animals, and found in their dead carcasses just such appearances as this boy's body presents; and they have observed in those animals symptoms, before death, very similar to those which human patients, laboring under this malady, display.

It was long a familiar fact that fractures of the skull, which proved fatal, were frequently accompanied by circumscribed abscesses in the liver. And whimsical explanations of this fact were given; how there was some occult sympathy between the brain and the liver; or how the liver was jarred and hurt by the accident whereby the skull had been broken. Its true explanation was reserved for modern times; it arises from the introduction of pus into the blood. To the same causes are to be ascribed the abscesses and internal inflammation, which follow certain cases of amputation; and not of amputation merely, but of operations which seem less perilous, such as putting a ligature on a varicose vein; trying a hæmorrhoidal tumor; simple venesection; nay, a patient of mine, in this hospital, some years ago, lost his life in consequence of the supervention of the malady I am speaking of, after the excision of some spongy irritable little growths about the orifice of her urethra, by the late Dr. Ley.

In those latter instances there was no pus, you may say, to enter the blood; no primary suppuration; none, at least, that was obvious. True, there was none, until the dead body was inspected; and then, in such cases as these, inflammation of a vein or veins, phlebitis, has been discovered—phlebitis which had passed into the suppurative stage.

It was at one time a subject of debate, whether those collections of pus were the result of inflammation of the texture in which they are found—or whether they were simply deposits of pus, the pus having been carried in substance, and entangled or somehow laid down in those spots. This last was a very extravagant conjecture. It was suggested, I fancy, chiefly by the circumstance that the collections of pus *sometimes* form without the occurrence of any of the ordinary symptoms of inflammation of the affected tissues. Sometimes, I say, but not always, the inflammation is latent. In this boy it was attended with a remarkable degree of pain.

But there are some difficulties attending this theory, and objections may be made, which you should be prepared to obviate. Pus—it will be said, and very truly said—pus is, in innumerable instances, absorbed into the blood without any such formidable consequences. We see great abscesses disappear, and yet no other smaller, disseminated abscesses ensue. Does not this invalidate the alleged cause of such disseminated abscesses? No; it seems that for their production pus, as such, pus in substance, pus in the mass, must be received into the veins, into the circulating torrent. Pus that is taken up by absorption has not this destructive and fatal effect; it is altered, probably, by that process.

How, then, does pus get into the circulation in consequence of an amputation? Is it not absorbed from the suppurative stump? No, I believe not. If

the amputating knife crossed and sunk into a suppurating spot—if a vein had been divided—pus might have been sucked into the vein, and the usual effects follow. But the veins leading to, or rather from, a stump become blocked up by adhesive inflammation, and impervious, before the stump has had time to suppurate. How, then, does the pus find admission? Why, it is a product, in this case also, of phlebitis; the interior of the vein inflames, and goes on to supuration, and the pus which it pours forth mingles, as pus, with the circulating stream.

But other objections and difficulties present themselves. Cases of manifest phlebitis occur, without any disseminated abscesses or points of inflammation. Yes, there are two forms, or stages, or varieties of phlebitis—the adhesive and the suppurative. The blood contained in the inflamed vein coagulates and adheres to the walls of the vessel, and blocks it up—obliterates its cavity. If the vein be a small one, no great harm is done. If it be a large one—if it be the principal venous trunk of a limb, for example—its obliteration is followed by œdema of that limb. The blood cannot return freely, until the circulation through the affected vein is restored, or until a collateral venous circulation is established. This is, you know, the pathology of what is called phlegmasia dolens—so common after parturition, and whenever the femoral vein is sealed up, or greatly obstructed by the effect of adhesive inflammation, whether in males or females.

But in other cases the adhesive inflammation is succeeded by the suppurative. Sometimes pus may form harmlessly even in a large vein—namely, when the suppurating part is bounded and shut up at each end by another part in which the adhesive inflammation has prevailed; but whenever the pus finds its way into the general current of the blood, then these purulent collections are apt to occur, and the life of the patient is in imminent jeopardy.

You may, however, be told, that the veins have been diligently traced in some of those fatal cases, and that no vestige of suppuration, or even of inflammation has been found in them. To make this objection valid, *all* the veins should be scrutinised throughout the body; and that, I may venture to say, has never been done. In the case before us, Mr. Anthony searched long before he found any portion of inflamed vein; but he found it at last, slight yet distinct, in the left axillary vein. So in a terrible case which occurred in the summer to one of the students here—a case, as I understand, very similar to that of my little patient—only an inch or two of one vein, the jugular, was found to exhibit obvious traces of recent inflammation. But if none had been found in the more obvious veins, this would not satisfy me that there had been no phlebitis. The veins of the *bones* are often, I believe, the seat of the primary mischief, the fountain from which the pus, which thus renders the blood a poison, first proceeds; the veins of the skull, of the diploe, when disseminated abscesses ensue upon injuries of the head; the veins of the bones of the extremities after unsuccessful operations; nay, the evidence of the venous inflammation may have disappeared. Mr. Arnott has at this time a very interesting case in the house, which he permits me to mention, and which most of you probably have seen.

He had occasion to amputate a man's arm. Two or three days after the operation, the patient's pulse began to quicken; shiverings, I believe, happened, and Mr. Arnott became very apprehensive that phlebitis was taking place, and, watching narrowly for it, he soon found it. The veins of the arm, the large superficial visible veins, became swollen, hard, tender. In no long time an abscess formed in the other arm, near the elbow joint, I think; then a great abscess in the back. The man is apparently recovering from these cross complications; and the case is excessively interesting, inasmuch as it shows (or will show, I hope), that this formidable malady, suppurative phlebitis, even when it gives rise to consecutive inflammation and suppuration here and there, is not necessarily fatal; though it is so, unfortunately, in a very large majority of instances. Now in this instance treatment was applied to the inflamed veins of the arm, and the inflammation has subsided and ceased, and all outward evidence at least of its existence has disappeared, and probably all inward evidence too; so that, were this man to die, his venous system might probably be searched in vain for any remaining traces of phlebitis—and yet we know that he has had phlebitis.

I believe, then, with Mr. Arnott, and with M. Cruveilhier, that the essence of this frightful malady is phlebitis; and that is the compendious name which we may now give it—"suppurative phlebitis." I have seen two or three instances in which it has occurred in persons who had had deafness and a chronic purulent discharge from the ear, chronic otitis. Here, no doubt, the veins of the bones of the skull, or of its membranes, became involved at last in the disease of the petrous portion of the temporal bone. I mention this, to account for the particular notice of that bone in the report of the dissection. The purulent deposits themselves are caused, it is believed, by inflammation going on to suppuration of the venous capillaries of the part.

The object of our treatment, when the phlebitis is obvious and superficial, is to subdue and resolve it, or, at any rate, to prevent its passing beyond the adhesive stage. This we do by keeping the patient at rest, by applying leeches and lotions, or fomentations to the neighbourhood of the inflamed vein, and by prescribing an abstinent and regulated diet. There seems to be sometimes a sort of epidemic tendency to the occurrence of phlebitis, either depending upon some existing condition of the atmosphere, or upon some peculiar state of the human body, brought about by antecedent influences. The same external circumstances that predispose to erysipelas and to hospital gangrene, predispose too, I fancy, to phlebitis, and to phlebitis of the suppurative variety. When a person is laboring under the disease, it is probably unsafe to open a large vein, lest by that slight injury we should establish a fresh local phlebitis. Indeed, after the suppurative form has once been set up, general bloodletting does no good, but diminishes the power of the system at large to struggle against the disease.

Sometimes suppurative phlebitis is attended in its course with repeated rigor, and with profuse perspirations, and (as in our patient's case) with copious and unnatural discharges from the bowels. These have

been noticed in animals soon after the introduction of pus into their veins. Nature attempts, apparently, thus to eliminate the poison; and where the quantity of pus so introduced has been small, the attempt is now and then successful. But in general there is a continual supply of the noxious substance, and the system is irrecoverably infected. In all cases great agitation and a marked disturbance of the nervous system occur.

This is a subject of the greatest interest and highest importance to the surgeon, the accoucheur, and the general practitioner. To its consideration I therefore strongly urge you. If I did not suppose that most of you may have already heard, in his lectures and clinical observations, Mr. Arnott's matured experience and sentiments upon this subject, I should recommend you to read his excellent paper upon phlebitis in the *Medico-Chirurgical Transactions*.

CLINICAL LECTURES

DELIVERED AT THE

METROPOLITAN FREE HOSPITAL.

BY MR. BENNETT LUCAS,

Senior Surgeon to the Institution, and one of the Lecturers on Anatomy and Physiology at the Westminster Hospital School of Medicine.

Lecture II.—Dec. 2, 1842.

GENTLEMEN,—At the conclusion of the last lecture I directed your attention to some cases of interest, which were under treatment at the time. I shall occupy a few moments in stating to you their issue.

The man from whom I removed a large portion of his left scrotum, for the relief of some distressing symptoms he suffered in connection with varicocele of that side, remains free from them. The parts are now perfectly healed, the scrotum of the affected side is not half as large as the opposite one; the testicle and the varicose veins, which can be distinctly felt at the inner and back part of the scrotum, are kept permanently and effectually supported; and, if even no amendment takes place in the varicocele from the operation, the amount of benefit he has received from it fully compensates him for the pain and inconvenience he suffered from its performance. The patient who was affected with encysted hydrocele of the chord continues free from any return of the tumor; the little hardness, or rather thickness, of the cellular tissue of the chord is gradually disappearing.

The girl who was operated upon for divergent strabismus has not since applied here, which makes me suppose the satisfactory result of the operation continues. It may be, however, that she has been "kidnapped" on the pretence of doing more for her, as this system of practice has not as yet altogether subsided.

A patient, named Charles Johnson, aged thirty, has been in attendance for the last eight weeks with necrosis of the lower jaw. He had been the inmate of another hospital before he applied here, and had a portion of bone, corresponding to the right horizontal ramus of the jaw, removed. The history he gave of his case is as follows. He had been an equestrian performer as clown, in which vocation he led a very free and irregular life. He had venereal three times, both sores and buboes. Eighteen months ago he had a