

ART. X. *Cases of Diffuse Cellular Inflammation.* By JOHN M. B. HARDEN, M. D., of Liberty county, Georgia.

The following cases of painful interest to myself, I deem of sufficient importance to lay before the medical public:—

CASE I. About the beginning of November, 1837, the Rev. Mr. Cozby* travelled from St. Mary's to Augusta, Georgia, for the purpose of attending a meeting of the Synod of South Carolina and Georgia, at the latter place. He performed the journey on horseback, an exercise to which he was unaccustomed, and which was rendered more fatiguing by his having kept up in company with a friend, who was travelling in a gig. It was remarked, by a fellow traveller, that there was an unusually violent motion of his arms, and particularly of his left arm, communicated by the gait of his horse. He spent about a week in Augusta, in *apparently good* health. After the adjournment of the Synod he left in company with two clergymen of this county, on their return home. On the first evening of their journey, after stopping for the night, he complained of being unwell and of a pain in the left axilla, which he supposed to proceed from an enlarged gland. He had fever which continued all night. On the next morning, however, feeling somewhat refreshed, he renewed his journey, but had not proceeded far before he was compelled to stop and lie on the ground. One of the gentlemen, who was in a gig, immediately took him in, and after about two days' travel, brought him to his own house in this county, where he arrived on the 18th day of November. During the journey he remained in a state of extreme drowsiness, with high fever and pain, which was mitigated by a sling and a handkerchief tied over the arm and around the body. On the night of his arrival he suffered most excruciating pain in his armpit and shoulder, and his fever was very high. On the 19th he was bled from the arm. On the 20th a physician was called in, who attended him until the 25th, when I saw the patient in consultation. From the attending physician I derive the following account of the symptoms and treatment.

On the day first visited by his physician he presented the following symptoms. There was little or no swelling of the shoulder or arm; pain in the left axilla; high fever; pulse between 110 and 20, full and strong; irritability of stomach; nausea; pain on pressure over epigastric region; tongue dry; mind clear; ten grains calomel were given, to be followed by a dose of oil. 21st. On this day there was slight

* Æt. about 26, of spare habit of body, pale complexion, light hair, blue eyes.

swelling of the forearm and back of the hand, restlessness and inability to move the arm; other symptoms same. He was bled from the arm to lbs., and flax tea with a small portion of antim., tart., given, in broken doses.—22nd. The swelling is extending above the elbow; fever higher; worse in every respect. He was cupped on the arm; treatment continued.—23d. His symptoms appeared to be more favourable to-day. He was worse again on the 24th, and I was sent for in the night, but being engaged I did not see him until the next day.—25th. I visited him at half past 9 o'clock, A. M.; he had just been bled from the arm by the attending physician, but he lost only a small quantity of blood on account of a disposition to syncope evinced soon after the vein was opened. The swelling extends now from the fingers to the axilla, and is very tense. The arm appears to be double the natural size; no pulsation can be felt in any part of it; there were vesications underneath from the use of turpentine, and a diffused redness of the skin, owing, probably, to the same cause; pain not very great unless the arm be pressed upon or moved; restlessness; delirium at times; pulse 120, of moderate volume and strength; rational when questions are asked him; countenance anxious; tongue little furred; bowels loose; a blister had been applied over the epigastric region, which had drawn well. It seemed evident that the inflammation had progressed too far to be arrested, and that it must either terminate in suppuration or mortification. We agreed, however, to cup the arm again and give small portions of tart. antim. in flaxseed tea, at intervals; the blood did not flow freely, and very little was obtained. The whole arm was now enveloped in a poultice, and we left him.

26th. We met again; no alteration in his case; his bowels have been freely acted on during the night by a dose of oil, which I did not know had been prescribed. I noticed to-day a dark purple spot above and below the elbow, on the inner part of the arm, which I thought indicated incipient mortification. Omit medicine and continue poultice with farinaceous diet.

27th. Saw him alone. He is evidently worse in every respect, and I clearly saw that he could not survive much longer; he is extremely restless, and has been so during the night, with delirium; picking at the bedclothes; pulse 130 or 40, feeble; tongue dry. The purple spots have greatly extended. In order to relieve the tension, I made, with my lancet, two incisions, one above and the other below the elbow, through the skin, to the extent of two or three inches. I pressed out a considerable quantity of bloody serum mixed with pus. A blister was now applied over the whole arm by the advice of another

medical gentleman who had been called in. He, however, sunk rapidly, and expired at 10 o'clock that night.

After death I extended my incisions down to the muscles, in order to ascertain the seat of the inflammation. The cellular tissue presented so many traces of disease that I did not pursue the dissection farther; it was greatly thickened, and completely infiltrated with the purulent and sanious matter which had escaped before death. The skin of the arm, externally, was of a dark livid appearance.

This case presents us with an example of that variety of inflammation which is known under the name of "diffuse cellular," consequent upon severe horseback exercise, which was obviously the *exciting cause*.

CASE II. It was on the 27th of November that I made the above-mentioned partial dissection of the arm of Mr. Crozby. I did this without recollecting that a day or two before I had received a slight wound from the point of my knife on my right forefinger; indeed the wound was so slight that it scarcely attracted my attention at the time it was made. On the 28th I found the wound inflamed and painful, and although I did not really believe it, I mentioned to one or two individuals that I should not be surprised if I had been poisoned. That night I went to bed fatigued, on account of having set up the night before. I did not like the appearance of my finger. At two o'clock in the morning of the 29th I was awoken by a very severe chill and a dull uneasy pain in my right arm-pit. The chill lasted an hour or more, and was succeeded by fever, my pulse rising to 96 in a minute. There was now no doubt on my mind that I was actually poisoned. My first thought was to arrest, if possible, the further absorption of the poison. In order to do this I cut out with my lancet a bit of my finger where the wound was, and applied an alkaline poultice of corn flour, aq. ammoniæ and lye. I had warm applications made to my feet, and drank very largely of warm water alone, with the design of filling my stomach. In the course of two hours I had swallowed three pints. In a short time I was thrown into a profuse perspiration which continued more or less during the whole day. I had a great disposition to chill upon the least exposure. My tongue clean and moist. I now took a dose of castor oil, and in the afternoon of this day, my pulse being still 96, I commenced to take quinine in doses of one gr. every hour or two. I took three or four doses before bed-time. I went to bed at nine o'clock with a moderate fever, and the pain only severe when my arm was moved in certain directions. Slept comfortably until four o'clock on the morning of the 30th, when I awoke and thought I was about to have an ague, but the disposition soon passed off. This day I took regularly one gr. of quinine every

hour, my symptoms being the same as yesterday, which kept up a continued moisture on my skin, my pulse still much above the natural standard. The night of this day I spent comfortably, and the next day, December 1st, I felt so much better that I rode in my sulky the distance of twenty-five miles. I still continued the quinine at longer intervals, and in the evening I added an infusion of aristolochia serpentaria; I still however was not clear of fever, and the pain in the axilla prevented me from using my arm freely. On the 2nd December I kept myself in and took large doses of the serpentaria. On the 3d, 4th, and 5th I visited some patients; on the 6th, however, the pain and inflammation had so increased, no doubt from the exercise, that I found it impossible to go out. I thought I saw that suppuration was inevitable, and I did nothing more than apply warm poultices to the inflamed part. It was six weeks after this before I was able to ride out again, a great part of which time I suffered most excruciating pain and almost constant fever, my pulse frequently ranging between 100 and 120 in a minute. On the 13th of December I thought from the touch that there was a collection of matter, and knowing that it was important to make an early opening, I requested my father-in-law, Mr. L., to open it for me. The swelling was directly in the right axilla. It did not point, and he was somewhat averse to do it: however, upon my urging it, he introduced a lancet, and upon withdrawing it a small quantity of pus, mixed with blood, followed. It continued to discharge from this opening in small quantities until the 18th, when I found that there was a collection of matter which this opening did not seem to reach. I therefore requested Mr. L. to open it in another place a little lower down, at the most depending part of the abscess. Upon doing this three or four ounces of pus immediately escaped, with great relief to me. During the week large quantities of pus escaped from this opening. I was now greatly reduced, and although I sat up the most of the time, yet once or twice upon attempting to get up I was so overcome as nearly to faint. I tried the use of wine, but it always increased my unpleasant sensations; I therefore omitted it and took three or four grs. of quinine a day, which agreed with me very well. The abscess had discharged up to the 25th day of December lbiss. of matter. This day I had chill and fever, with severe pain. The orifice was contracting and the discharge lessened. I now thought it important to make a freer outlet for the matter, and having directed Mr. L., he introduced a director, and with a bistoury enlarged the opening to the extent of about one inch; a considerable quantity of pus escaped. The next day I was better, and continued to grow better in my general health from that time. My appetite and strength increased daily. The abscess, however, still continued to

discharge, and I had lancinating pains in the course of the lymphatics of the arm when pressed or when I suddenly extended the arm. I had at times also acute pains through the shoulder, and dull pain in the region of the kidneys. My urine deposited a sediment. I rode out for the first time on the 13th day of January. On the 15th the abscess was probed by a physician, when, to my astonishment, the probe was easily passed up to the depth of three inches or more, immediately under the pectoral muscle, where I had always, however, suffered most pain on pressure. The discharge at this time was small, although the cavity was large, for upon elevating and depressing my arm, a rush of air into and out of it could be distinctly heard, producing a perfect "bruit de soufflet." I commenced to treat this sinus with injections of a strong solution of nit. argenti and graduated pressure, by means of a compress and bandage, and continued this treatment until the 6th day of February. The sinus was still two inches in depth, the cavity quite small, when I omitted the injections, still using the pressure. In the course of a week more I found it impossible to introduce the probe and the discharge had entirely ceased. The quantity of matter discharged in all must have been lbij. My health now is very good, although I still have occasional pains in the axilla and shoulder, and in damp weather along the course of the lymphatics of the arm.

I must not omit to state that there frequently passed from the wound, along with the pus, shreds of membrane, which I suppose to have been the cellular tissue. About the time of the crisis of the disease my perspiration had a most disagreeable smell, and at night was frequently so profuse as to moisten the bed clothes.

This is the disease called, improperly I think, by Dr. Good, erythema anatomicum. There may be cases which bear the characteristics of genuine erythema, but the above and most of those which I have seen on record resemble more closely the "diffuse inflammation of the cellular membrane," or "diffuse phlegmon," as it is called by Baron Dupuytren, and the "erysipelas phlegmonodes," I cannot but regard it as being pathologically the same disease.

CASE III. As I have hinted above, my father-in-law, Mr. Lelonte,* attended me during my whole illness. He opened my abscess three times, and frequently pressed it, and introduced tents into the orifice, and of course often had his hands in the matter which was discharged.† I heard him complain frequently during the month of December of vertigo, which attacked him when rising up, and often while lying in

* Æt. 55—dark hair and eyes, dark complexion.

† My object in mentioning this will be seen hereafter.

bed. He complained particularly of this during the Christmas holidays.

On the 5th day of January, 1838, he eat very little breakfast, and was engaged during the whole of that day in putting out an extensive fire which had gotten on his lands. He returned home in the evening after fasting all day, of course very much fatigued and exhausted. He eat an unusually hearty supper and went to bed at eleven o'clock, his usual hour. About midnight, or a little after, he was taken with an ague, which lasted two or three hours, attended with vomiting. The matter thrown up was fluid, his supper having been digested completely. His thirst was extremely great, and he took copious draughts of cold water. He had one copious dark coloured evacuation from his bowels. Passed large quantities of urine, which was of a dark colour. I saw him early on the morning of the 6th. His eyes were turgid, no doubt from the effects of vomiting. His pulse 80, full, rather quick—respiration 30. [It is remarkable that during the greater part of his sickness there existed this want of correspondence between the breathing and the pulse, a symptom which I have now so frequently observed to attend unfavourable cases that I cannot but regard it as of importance in forming a prognosis. The reverse, however, of the above I have most frequently noticed, i. e. the pulse more frequent than the breathing.] His skin was soft and moist, and the tongue clean. Perspired little during the night. He complained of feeling very badly, with pains all over his body, but particularly in his back and loins. Considering the circumstances and symptoms of the case, I concluded that it was occasioned entirely by over exertion and eating too heartily the night before, and that abstinence and rest would soon restore him. I advised a gentle cathartic, consisting of one gr. gamboge, one gr. aloes, and one gr. calomel, to be taken to-night, at bed-time.

7th. The cathartic had acted two or three times this morning, and he was apparently so much better that his family left him and went to the distance of eight miles to attend church. On the evening of this day, however, he was evidently worse, he had become very restless and uneasy, complaining still of dull pains over his whole body. I now advised a mustard plaster over the epigastric region. He did not allow it to remain more than 15 minutes before it was removed. His restlessness still continuing, I advised four more on the extremities. These were removed in about the same time after. He was still not relieved, and I gave him then a teaspoonful of paregoric; this seemed to quiet him for a short time. Believing myself scarcely out of danger from my *own* disease I did not sit up with him, but I understand he

was frequently speaking in delirium during the night, and was very restless during the latter part of it.

8th. This morning I found him complaining of severe pain in his right forearm. I examined it, but saw no swelling, or, as I then thought, any symptoms of inflammation. Before evening, however, his forearm had swollen very much, and gave him very great pain. He was very restless the whole day; pulse and breathing as before; anorexia. I made use of every application that I thought by possibility might relieve the pain, but with no effect. The inflammation rapidly progressed, and very soon I perceived purple spots, similar in every respect to those I mentioned in Mr. C.'s case, on the palmar surface of the arm. I covered the forearm in a poultice, and gave him now $\frac{1}{8}$ of a grain tart. antim., and $\frac{1}{2}$ grain opium every hour. This procured a little relief for a time only. This evening was the first time that I felt any alarm for the result. He spent a very uncomfortable night, being restless and delirious.

9th. The swelling was very great, and the purple spots had spread very much. I covered the arm with a blister, and in order to relieve the excruciating pains which he suffered, I gave large doses of acet. morphia, but with no effect. His pulse now rose to 120 or 30 in a minute, became irregular and intermittent; he was delirious and very restless; rational when spoken to. At 12 o'clock I found he was rapidly sinking, and at 5 p. m. he expired. The blister had drawn before death, and there was discharged from the arm a quantity of a dark coloured bloody serum. His left leg, also, about four hours before death swelled to double the natural size, and assumed, like his arm, a purple or livid hue.

This is another case of "diffuse cellular inflammation," and is in all its features so similar to the first case, that I can scarcely resist the conclusion of a common origin, and I am inclined to refer to the probable absorption of matter from my abscess, as the predisposing cause, but which might never have been called into action had it not been for the great exertion and fatigue which he afterwards underwent. This is mere hypothesis, yet it is strengthened by the fact that in another individual, who dressed the abscess, pustules were formed at the extremities of the fingers, and afterwards pain in the left arm, extending up to the shoulder; which, however, was removed after a week with no bad consequences. But I cannot dwell longer on a case connected with so many mournful recollections, and I submit it, with the others, to the notice of my professional brethren, as contributions to the study of an interesting and important disease, whose pathology is but little understood.

Liberty County, Geo., March 10th, 1838.