

her former labors. Found her on the bed, with her ordinary clothing unremoved, blanched as if with loss of blood, cold, collapsed, pulse 130, and scarcely to be felt. Pupils were widely dilated; she was delirious, and totally blind. For two or three weeks she had had increasing dimness of vision, which she compared to a mist before objects. A week before she had had symptoms of labor, slight hæmorrhage, and pain, which subsided with rest. With it she had had excruciating headache, which continued two days. During the week past she had been comfortable, and about the house, but her eyesight was so bad she had difficulty in seeing to cut her children's food. While alone with her little children she was taken, about five P. M., with hæmorrhage, and lost consciousness, which she did not recover till after my arrival, two hours later. I gathered that she had some sort of convulsive attack, but no severe convulsion. How much external hæmorrhage there had been, I could not ascertain. She rallied, regained consciousness, but not at that time her eyesight. There was no more external hæmorrhage. Drew by catheter two ounces of urine, all that had been secreted in six hours; found it albuminous to one third of its bulk. No convulsion occurred. Labor went on normally to its termination, about nine hours from the first hæmorrhage. A small amount of ether was used. The cord was flaccid, and the child dead. Immediately following the child, and before the expulsion of the placenta, came a dark clot, saucer-shaped, or as if moulded between the child and the uterus, nearly as large as the child, or weighing, I should think, two or three pounds, which explained her collapse when first found. Her recovery was slow. She was anæmic, her skin had a waxy look, and her face was puffy for some time. Albumen diminished, but did not disappear so long as I kept track of the case, that is, about five months. Her vision improved to some extent, but was so poor that five months after confinement I persuaded her to consult Dr. Derby, who found atrophy of the optic disks, vision in one eye one third, in the other one twenty-fifth. Prognosis as to recovery of vision unfavorable. Subcutaneous injections of one fortieth grain strychnia were advised and tonic treatment. Patient did not follow the advice at all, and has left town. I have seen her once since, unprofessionally, during the summer of 1881, and could make only general inquiries. She said she was pretty well, and her vision was improved somewhat. I am sorry to say that no microscopical examination of the urine was made.

Whether this case is one in which nephritis tends to pass from the acute into the chronic form, or whether, as I suspect, there was some disease of the kidneys previous to her last pregnancy, there are not sufficient data to determine.

FOUR CASES OF "PHLEGMASIA ALBA DOLENS."¹

BY HAROLD WILLIAMS, M. D.

I PRESENT to the notice of the Society to-night four cases of so-called phlegmasia alba dolens which have occurred in my practice, not so much because I consider these cases of especial interest in themselves,

¹ Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, November 8, 1882.

as because, taken in connection with each other, they seem to suggest a common cause, upon which I believe too little stress has hitherto been laid.

CASE I. Mrs. A. was confined six days previous to my first visit, after a normal labor. She had been doing well until the night before, when she had a chill, followed by pain in the left groin.

During the following week the signs characteristic of phlegmasia dolens appeared, the thigh and leg becoming enormously swollen, being white and shiny in appearance, and hard, tense, painful, and unyielding on pressure. The pain was most severe on pressure over the popliteal and femoral vessels, which were enlarged and hardened. This case was a typical one, and followed the usual course, the patient recovering in about six weeks.

CASE II. Mr. B., forty years of age. The patient had been suffering from a well-marked case of typhoid fever for two weeks previous to my first visit. He had been treated with cathartics, diaphoretics, and a low diet, and was very much reduced when I first saw him. It was an unusually severe case of typhoid fever, with low delirium and hypostatic pneumonia, but the patient did well on a milk diet with brandy, until the fifth week of his illness, when, after an increase of temperature, a small swelling was detected in the right groin, which increased in size, and on the second day after it was first noticed fluctuation was detected and an incision advised; but to this procedure the relatives would not consent. Two days later the thigh and leg began to enlarge, and although the bubo was spontaneously evacuated, the swelling still persisted. The popliteal veins could be distinctly felt, hardened and enlarged, and could be rolled to and fro under the fingers, and this state of things could be traced upward in the thigh through Scarpa's triangle. The whole limb now became enormously enlarged, was tense and unyielding, and presented the characteristic appearance of phlegmasia alba dolens. The limb continued in this state for two weeks, when it was noticed that the calf of the leg had become œdematous. On the following day there was a second rise in temperature, and deep fluctuation was felt in the calf. Free incisions, with the insertion of drainage tubes, were again advised, but to this the relatives would not consent, and the patient gradually became weaker, and subsequently died of pyæmia.

There was no autopsy.

CASE III. Mr. C., a lawyer, sixty-three years of age. Patient has always been well with the exception of occasional pains, supposed to be rheumatic. One week previous to present attack he had pain of this character in the left shoulder. On my first visit, March 16th, he complained of intense pain in the right ankle-joint. The night before he had had a rigor, and had not been feeling well for some time, being in a much overworked condition. Pulse 48. Temperature 100° F. Ankle-joint slightly swollen, red, hot, and painful. No history of injury. These signs in the ankle-joint gradually subsided, but on March 20th patient complained of intense pain in the calf of the leg. Both foot and leg were slightly enlarged, but neither hot nor red. Pain most severe in popliteal space, where the veins could be felt hardened and enlarged. No change in vessels of the thigh.

March 22d. Thigh began to swell, and there was intense pain on pressure in Scarpa's triangle, where the vessels could now be felt hardened and enlarged.

Dr. Porter saw this case with me in consultation, and there seemed to be no doubt that there were thrombi in the veins.

The pain diminished as the swelling increased, and the limb remained in this state until April 3d, about three weeks after the beginning of the attack, when precisely the same sequence of events occurred in the left leg. Patient made a good recovery, and was able to move about six weeks after the beginning of the attack in the second leg.

In this context I would say that phlegmasia dolens seems to be idiopathic in this gentleman's family, and his son has had seven different attacks of this disease.

CASE IV. Mr. D., a dispensary patient in an advanced stage of phthisis. Two weeks before death he had phlegmasia dolens in both lower extremities, beginning in the thighs and extending downwards, until the whole of both limbs were involved.

In this case the pain was never excessive. No autopsy was permitted.

The treatment in each of the cases was expectant. Morphia was given subcutaneously in sufficient quantity to control the pain. The most liberal diet possible was insisted upon, consisting of eggs, milk, meat, and broths, and large quantities of brandy were prescribed, one of the patients taking as much as a quart in the twenty-four hours.

The local treatment in three of the cases consisted in the application of thin flax-seed poultices, with laudanum, and they were made large enough to envelop the whole limb, their application being continued as long as the pain was severe.

In Case I. cold applications afforded greater relief. When the pain had subsided the limbs were swathed in cotton batting and bandaged to the groin with flannel bandages.

In the two cases which recovered elastic stockings were ordered before the patients were allowed to leave their beds.

Now in each of these four cases we have a group of clinical phenomena, described under the head of phlegmasia alba dolens, and the first question which suggests itself to us is, What is the pathological process which gives rise to these phenomena?

On this subject we find an immense difference of opinion, but without going into the various views I will merely say that the most important theories may be included under three classes:—

First, that phlegmasia alba dolens is due to venous thrombosis.

Second, that it is due to inflammation and thrombosis of the lymphatics.

Third, that it is due to a combined inflammation and occlusion of both veins and lymphatics.

Under these three heads we may include the views of most modern writers on this subject, although we may find that other structures besides the veins and lymphatics are involved in the process, as, for example, those cases occurring in midwifery patients, in which there is an inflammation of the skin, the subcutaneous and the intermuscular cellular tissue, which seems to be an extension of the inflammation of the cellular tissue about the uterus. But that this inflammation of the cellular tissue should occur without an inflammation of the walls of the veins and lymph vessels does not seem probable, and I know of no writer who asserts positively that such is the case.

In this context I would mention, in passing, the sep-

tic theory of phlegmasia dolens, as there seems to be no doubt that phlegmasia is often a septic process. I merely mention this because it is more properly a cause of the pathological state, while the question before us now is in regard to exactly what the pathological process may be.

To return to our three classes, it seems to me that the first may be positively excluded, since venous thrombosis alone is not in itself a sufficient cause for the phenomena of the disease, as we have in many instances thrombi occurring in the veins of the lower extremities unaccompanied by characteristic phenomena of this disease.

In regard to the second class, I do not believe that a simple inflammation and occlusion of the lymph vessels is in itself a sufficient cause for the phenomena in question. But this is a matter of opinion as yet, and I am aware of no investigations which can settle this point definitely.

It is under the third class that I group my cases, since venous thrombosis was present in all. Whether the venous disease preceded that in the lymph vessels it is impossible to say with any degree of certainty, but I am inclined to the belief that in each case the venous disease preceded the inflammation of the lymphatics, since the hardened and thickened wall of the veins could be distinctly felt before the shiny, white appearance of the limb was manifest. And not only do I believe that the venous thrombosis was the initial phenomena in these cases, but also does it seem to me possible that the venous thrombosis, combined with the hardened and enlarged condition of the walls of the veins, may have been in itself a mechanical cause for the thrombosis and consequent inflammation of the lymph vessels by exerting pressure upon them.

But be that as it may, venous thrombosis was present in every one of my four cases, and the next question which naturally arises is in regard to those conditions which favor such thrombosis.

Apart from a stagnation of the blood and the changes in the walls of the vessels, we have authority for saying that thrombosis in the vessels is rendered more likely by an altered condition of the blood itself, and this alteration in the blood seemed to be the only condition common in my four cases, all of which occurred under very different circumstances.

In Case I. we have the anæmic condition of the blood, which is always present in pregnancy, when the blood is more watery, when its serum contains less albumen, but more fibrine and extractive matters.

In Cases II. and IV. both patients were extremely anæmic, as one would expect in a case of typhoid fever treated antiphlogistically and in a patient in an advanced stage of phthisis.

In Case III. the patient was much less anæmic than the others, but still he was in a very much overworked condition, and I am told that the seven attacks his son has had all came on after overwork.

Of course it is impossible to say that there was no alteration in the walls of the veins, as a cause for the thrombosis, but still there was no reason for assuming that such was the case. Then, again, in all the cases except the typhoid fever case, the heart's action was vigorous. It is by no means a new idea that an altered condition of the blood is a condition favorable to the formation of thrombi in the veins, but I emphasize the subject because it seems to me that hitherto far too little stress has been laid upon it, and because I regard

a consideration of this condition of the blood a most important factor in the treatment of phlegmasia dolens, and I venture to recommend to you the importance of advising a general tonic treatment, the most nourishing diet, and the free exhibition of stimulants in cases like the above.

RECENT PROGRESS IN OTOLOGY.

BY J. ORNE GREEN, M. D.

HÆMORRHAGE AND HÆMORRHAGIC INFLAMMATION OF THE LABYRINTH OF THE EAR.¹

WITH our present knowledge a hæmorrhage into the nervous structures of the labyrinth must be assumed in a certain number of cases in which a sudden and total deafness occurs in a previously healthy ear. Cases where this occurs from injury, especially from fractures and fissures of the petrous bone, are not uncommon, and have been frequently proven anatomically. Moos has reported the dissection of a case of total deafness resulting from a gun-shot injury to the external ear without injury to the deeper parts where an effusion of blood in the membranous labyrinth was the cause of the deafness, without a loss of the labyrinthine fluid which would in itself have accounted, if it had existed, for the deafness.

Idiopathic hæmorrhages in the labyrinth without any preceding injury are, however, very rare. The famous case by Menière,² which furnished the foundation for the so-called Menière's disease, is almost if not the only one on record. This case, incomplete as it is, for the dissection was by no means thorough, leaves scarcely a doubt that the total deafness was due to labyrinthine hæmorrhage, although the term "lymphe plastique rougeâtre" points to a simultaneous inflammatory process in the membranes of the labyrinth. Notwithstanding the mass of literature which has appeared on Menière's disease this single and imperfect dissection remains as the only anatomical proof of the pathology.

In this connection another form of disease deserves attention, as it is doubtful whether it is Menière's disease, a disease of the brain, or an extension of an inflammatory process from the brain to the labyrinth. It occurs not infrequently in children, is associated with a staggering gait, and is preceded or accompanied by a sharp fever and other symptoms closely resembling cerebro-spinal meningitis. In common with Menière's disease it shows deafness, subjective noises, and staggering gait; it is febrile, while the latter is not, but rather apoplectic in its symptoms; it occurs chiefly in children, and is almost without exception bilateral, consequently producing deaf-mutism, while Menière's disease occurs generally in adults and is generally unilateral. Of this disease Lucæ has seen one hundred and nineteen cases in the last eleven years, and one hundred and one of these were considered due to meningitis or cerebro-spinal meningitis, as such was the diagnosis of the attending physicians at the time of the acute symptoms. Of these cases eighty-five were children totally deaf, eight were adults totally deaf, while seven retained a slight degree of hearing. In one the total deafness was only unilateral, in all of the others it was bilateral. The remaining eighteen of the one hundred and nineteen were considered to be cases of Menière's disease, as they certainly showed the complex symp-

toms characteristic of that disease. Of these eighteen one was in a child and bilateral, and seventeen were in adults, of which thirteen were unilateral and four bilateral affections.

As yet no dissections of the ears of children affected during cerebro-spinal meningitis have been published, although three dissections of such cases in adults³ showed a bilateral purulent inflammation of the labyrinths which had extended centrifugally from the brain to those cavities. A fortunate combination of circumstances has, however, now enabled Lucæ to observe a case both clinically and anatomically. A child aged three and a half years, healthy and of good hearing and speech, showed symptoms of a light cerebro-spinal meningitis; in ten days the threatening symptoms had so far passed away that he was able to sit up and play. On the eighth day he complained of a sharp ringing in the ears, which continued till the eleventh day, when he suddenly became totally deaf in both ears. Inspection of the ears showed only slight injection of the manubrium on the left side, nothing abnormal on the right. A diagnosis of otitis interna acutissima due to extension of inflammation from the meninges to the labyrinth was made. A few days after the examination he was again taken down with vomiting, fever, opisthotonos, strabismus, and all the undoubted symptoms of meningitis, from which he died fifty-seven days after the beginning of the illness, the deafness remaining total from the time of its first appearance. The autopsy showed, in brief, a meningitis tuberculosa in various stages. Both petrous bones showed before dissection marked redness in the neighborhood of the semicircular canals; the nervi acustici were normal, both macro- and microscopically. The osseous semicircular canals, especially the upper and posterior ones, were filled with fresh clots and fluid blood; both vestibules exhibited the same appearances in a lesser degree. The microscope showed lymph or pus cells with the blood. A small amount of free blood was found in the cochleæ. The membranous canals and the vestibular sacs were of a yellowish-red color and imbedded in the clotted blood. Corti's membrane was enormously thickened and the lamina spiralis intensely congested. The external and middle ears were normal, and the conducting mechanism freely movable.

It is unnecessary here to give a full account of the microscopical appearances; they are given in full in Lucæ's article, with illustrations. Suffice it to say that this very thorough and careful microscopic examination showed that the inflammation had extended from the meninges along the fibres of the dura mater and along the blood-vessel accompanying them to the spongiosa of the petrous bone, the particular spot of extension being through the minute foramen which penetrates the upper surface of the petrous bone just beneath the upper semicircular canal. Here an osteomyelitis was set up, and the inflammation then passed to the membranous semicircular canals, setting up a hæmorrhagic inflammation, thence to the vestibule and cochlea. It was impossible to determine whether the hæmorrhage or the inflammation was the primary disease.

Although in this case of Lucæ's the pathological appearances in the labyrinth closely resembled those described by Menière, in his case the symptom of vertigo was never present. Two points of diagnostic

¹ Lucæ, Virchow's Archiv, vol. lxxxviii, p. 556.

² Archives of Ophthalmology and Otology, 1871.

³ Heller, Deutsches Archiv f. klin. Med., iii. p. 482. Lucæ, Archiv für Ohrenheilkunde, v., p. 188.