ON THE
OPHTHALMIA OF PUERPERAL WOMEN.

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IN the history of the epidemic disease which prevailed in the lying-in wards of the Hôtel Dieu at Paris, during the years 1774 and 1775, it is stated by Monsieur Tenon that some of the puerperal women suffered from attacks of ophthalmia. From that period until the year 1825, it does not appear that any writer described inflammation of the eyes as a common or occasional occurrence in the diseases of puerperal women. Dr. Marshall Hall and Mr. Higginbottom then described in vol. xiii. of the Transactions of the Medico-Chirurgical Society, six “cases of destructive inflammation of the eye, and of suppurative inflammation of the integuments, occurring in the puerperal state, and apparently from constitutional causes.” In all these cases the ophthalmia took place between the fifth and the eleventh day after delivery, and was characterized by redness of the conjunctiva, contraction of the pupil, intolerance of light, opacity of the cornea, and chemosis. The coats of the eye burst in two cases, and in these

before death took place the collapsed eyeball healed over. Inflammation and suppuration occurred in the integuments and cellular membrane of the superior and inferior extremities of four of these women. Dr. Hall and Mr. Higginbottom referred this fatal disease to a constitutional origin which they did not define. They did not examine the bodies of any of the individuals in whom they had observed the progress of the affection.

In Mr. Arnott's paper, "on the secondary effects of inflammation of the veins," published in vol. xv. of the *Medico-Chirurgical Transactions*, two fatal cases of phlebitis are related, in which a disease of the eye took place, similar to that described by Dr. Hall and Mr. Higginbottom. From the phenomena observed in these two cases, Mr. Arnott was led to infer that the inflammation of the eyes in puerperal women, was to be attributed to inflammation of the uterine veins: "considering the circumstances under which the affection of the eye took place," he observes, "its characters, and the deposition of pus under the integuments of the body, are we not justified (on comparing these with the known consequences of inflammation of veins, and the frequency of this affection in those of the uterus after parturition,) in attributing such disease of the eye to inflammation of the uterine veins, and to the introduction of pus into the system?"

In the same volume of the *Medico-Chirurgical Transactions*, p. 370, is recorded the history of a case which came under my observation in April 1829,

in which destructive inflammation of the eyes occurred in the progress of uterine phlebitis. Ten weeks after delivery, and six after the commencement of uterine and crural phlebitis, the conjunctiva of the right eye suddenly became so much swollen and inflamed that the eyelids could not be closed, and a copious secretion of an opaque fluid took place from their inner surface. The cornea soon became opaque, and the vision was entirely lost two weeks before death. There was little pain or intolerance of light. The left eye became similarly affected, without much pain, and both were so much swollen that they appeared to protrude from the orbits. The vena cava, internal and external iliac, and femoral veins, had all undergone the usual changes of structure which result from acute inflammation.

In 1832 another case came under my observation, which further contributed to prove that a relation exists between uterine phlebitis and the ophthalmia of puerperal women. In a patient of the British Lying-in Hospital, delivered on the 27th January 1832, obscure febrile symptoms took place, a few days after, without any pain in the region of the uterus. On the tenth day after delivery there was fever, with delirium, tremors of the muscles, and a peculiar dusky sallow complexion; the whole of the left lower extremity was swollen, hot, tense, and shining, and there was exquisite pain on pressure along the course of the iliac vessels on the left side, and down the inner part of the thigh. The conjunctivæ of both eyes suddenly became intensely red

and swollen, and the sight was much impaired, if not entirely lost. The right knee-joint became exquisitely painful, and a gangrenous spot appeared over the sacrum. Before death, which took place on the 18th February, the eyes had become enormously swollen, so that the eyelids could not be closed, and the vision was completely gone. The coats of the left common external iliac and femoral veins, deep and superficial, were all thickened, and their cavities plugged up with firm coagula. The same was the case with the epigastric vein, and circumflexa ilii. The glands in the vicinity of these veins were enlarged, red, and vascular, and closely adherent to the cellular membrane, and outer surface of the vessels. The vena cava, to a short distance above the entrance of the left common iliac vein, had its coats thickened, and a soft coagulum of lymph adhering to its inner surface. The uterine, vaginal, gluteal, and most of the other veins which form the left internal iliac, were gorged with pus, and lined with false membranes of a dark colour. The uterine branches of the right internal iliac vein were also filled with pus and lymph, but the inflammation had not extended beyond the entrance of the trunk of this vessel into the common iliac, and the right common and external iliac and femoral veins were all in a healthy condition. In the muscular coat of the cervix uteri, on the left side, was a cavity which contained about half an ounce of purulent fluid. The veins proceeding from this part of the cervix were filled with pus.

Many cases of uterine and crural phlebitis came under my observation, during the twelve years which intervened between 1832 and 1844; but in none of these did inflammation of the eyes take place, and an opportunity present itself of again proving by dissection, that the ophthalmia of puerperal women is the consequence of inflammation and suppuration of the uterine veins, or that there is a close relation between them. In the month of October last, the following case occurred, which appeared to establish, in the most conclusive manner, the truth of this view of the pathology of the affection, to confirm the accuracy of my former observations on uterine and crural phlebitis, and again to demonstrate, that in phlegmasia dolens, the inflammation commences in the uterine branches of the hypogastric veins, and subsequently extends from them into the iliac and femoral trunks of the affected side.

On the 10th of October 1844, Mrs. G—— was delivered with the forceps, after having been upwards of forty-eight hours in labour with her first child. For several days she appeared to be recovering in a satisfactory manner, when slight hæmorrhage from the uterus took place, with fever and constant difficulty of breathing. On the 6th of November, the dyspnœa and quickness of pulse having gradually increased without any pain in the region of the uterus, the vision of the right eye was suddenly lost. On the 7th, there was no intolerance of light, nor appearance of inflammation of the iris or conjunctiva. On examining the eye, on the 8th,

I found the iris covered with lymph, and there was a great effusion of clear serum under the conjunctiva, which was so much swollen that the eyelids could not be closed. The power of seeing with this eye was totally destroyed. There was severe pain in the right shoulder-joint, and in the right hand and fingers, which were stiff and swollen. The whole of the left lower extremity was affected with the swelling and other symptoms observed in phlegmasia dolens, and there were two large purple spots on the inner part of the left leg. On the 9th, there was no headache or delirium. The pulse was 130, and feeble, and there was much dyspnœa, without cough or expectoration. The pain continued in the right shoulder-joint, and the swelling and stiffness in the hand and fingers. The left lower extremity was swollen, hot, and colourless; and several more large dark purple spots, or blotches, had appeared over the inside of the leg, and one, the size of a crown-piece, over the right trochanter. There was no pain nor tension in the hypogastrium, or along the course of the iliac and femoral veins of the left side. The eye was in the same state.

On the 10th, the head was still perfectly clear, and there were no tremors or nervous symptoms of any kind. The conjunctiva of the right eye was red, the effusion of serum under it still greater; the iris was covered with lymph, and the bottom of the anterior chamber filled with it. There was merely a sense of stiffness experienced in the eye. Vision of the left eye was indistinct, the iris move-

able, and of a grey colour. Wine, ammonia, and beef tea were given freely, without much benefit. On the 12th the tongue was dry, and the pulse so rapid and feeble, that it could not be counted. Great prostration of strength and profuse perspiration took place, and a large gangrenous spot appeared over the sacrum; the swelling of the right hand had disappeared, the dyspnoea had increased, and there was occasional delirium. She died on the 16th, and I examined the body the following day. There was no trace of inflammation in any part of the peritoneal sac. The left internal iliac vein through its whole course was lined with a thin, false membrane, which closely adhered to the inner surface of the vessel, and near the uterus its cavity was filled with pus. All the veins on the left side of the os and cervix uteri, and those of the vagina, were inflamed and full of purulent fluid. The coats of the left common iliac vein were thickened, and its cavity filled with a soft, pulsatitious mass, the outer surface of which firmly adhered to the vein. A coagulum of blood, three inches in length, was contained in the lower part of the vena cava, which had not been inflamed. The left common iliac vein, the superficial and deep femoral, and the saphena veins, were all filled with firm coagula of blood, but the coats of none of these vessels presented the alterations of structure usually observed after phlebitis. The cellular membrane of the whole of the left lower extremity was filled with serum.

In this case it was evident that the inflammation had commenced in the uterine and vaginal branches of the left internal iliac vein, and that it had extended from thence into the common iliac, and that the obliteration of the cavity of this vessel was the cause of the formation of coagula of blood in the external iliac, femoral, and saphena veins, and the consequent swelling of the left lower extremity. The rapid and destructive ophthalmia of puerperal women does not differ essentially from the violent inflammation of the lungs, cellular membrane, joints, and other parts so often observed to occur in cases of uterine phlebitis, and is undoubtedly referrible to the same cause. Ophthalmia, and all the secondary or remote symptoms which appear in the progress of phlebitis, have the same origin, and the rationale of all these symptoms must be the same. Some pathologists are inclined to believe that it is not so much to the condition of the nervous system, as to that of the blood and circulating fluids, however induced, that we are to look for an explanation of all the phenomena. That the blood becomes contaminated in cases of phlebitis, scarcely admits of doubt; but there is no direct evidence to prove that the pus formed in the veins actually mixes with the blood, and circulates through the system, and that the purulent fluid in the blood becomes arrested in some of the minute vessels of the eye, and there excites inflammation of the different textures of the organ.