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PUERPERAL PHLEGMASIA ALBA DOLENS.[1]

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In these times when the brilliant and alluring triumphs of the obstetric and gynæcic arts engross so much of our attention we should not permit ourselves to ignore or neglect the humbler topics of these divisions of medical science. It is in compliance with this idea that I have ventured to present for your consideration the subject indicated by the title of this paper.

In the study of this theme it will be observed that uncertainty and change has been characteristic of the pathology of the disease. It will be interesting to pass in review very briefly the various opinions of its pathology at different times. The disease has been considered as a simple inflammation by Lee, Rokitansky and Moxon. This is denied by Virchow, Barnes and Hewitt. Denman, Pazos and Levret asserted it to be a depot of milk. Van Swieton, Lieutard, Sell, Mauriceau and Callison attributed it to a metastasis of the milk. Jameson upheld the theory that it was a peculiar inflammation accompanied by an effusion of water. Hall and Fraser supposed it to be a peculiar inflammation in the muscles, cellular tissue and inferior layers of the skin. All these theories later gave way to the notion that the affection was due to some kind of disturbance in the circulatory system. Thus, Meigs claimed it to be a *pernicious* inflammation of the veins or crural phlebitis. McClintock and Hardy considered it to be a simple phlebitis. Stamnius maintained that it was an inflammation of the femoral and iliac veins which caused the phlegmasia alba dolens. Watson contended that it was a phlebitis of the femoral vein followed by obliteration of its canal. Tyler Smith considered blood poisoning as its cause, and that it stood in intimate relationship with puerperal fever, and hence the patient who became its victim had made a narrow escape from an attack of puerperal fever. Lusk teaches that phlegmasia alba dolens is an affection of the connective tissue associated in most, but not in all cases with thrombosis of veins. In some cases the extension of the inflammatory process is from the genital region, the perinæum, nates or upper part of the thigh. If the process be confined to the subcu-

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taneous tissue the blood vessels may escape. On the contrary, when the morbid process follows the sheaths of the vessels then they too become involved. In some cases the thrombosis may be the primary lesion.

The most probable and most generally adopted opinion is that this affection is produced by an occlusion of some of the veins of the lower extremity, usually the crural, tibial and peroneal veins (Lusk). Granting this to be the pathological condition, we may ask "What causes it?"

Simpson says that it is some morbid condition of the lining membrane of the vein. Leishman favors the idea that in most cases of phlegmasia alba dolens there is a precipitation of the fibrine of the blood by the action of some septic matter which has made its way into the blood or has been developed in that medium. As it is known that there is a considerable increase of fibrine in the blood of the pregnant woman it is contended that this hyperinosis will explain the occurrence of the obstructing venous thrombosis. Incidentally it may be remarked here that this increase of fibrine also favors the arrest of post-partum hæmorrhage. Among those who sustain this fibrogenic origin of the disease may be mentioned Andral, Gavarrat, Becquerel and Rodin. The late Dr. Fordyce Barker inclined to the view of Playfair, of a general blood dyscrasia as operative in the production of this disease, and considers it to be of use as a conservative effort of nature to guard the general system against the entrance of toxic matter. Some authors consider that an additional cause may exist in a pathological condition of the lymphatic system, characterized by inflammation and obstruction of the lymphatic vessels. Tilbury-Fox and Duncan believe that this is always so and that it is the most important etiological element as the glands and lymphatics, in their opinion, are the parts first affected. Virchow and Klob have also described a peculiar lesion, a puerperal lymphatic thrombosis.

Laffin has propounded the following views on the subject: Absorption of septic germs by the lymphatic gland situated in the crural canal or ring causes inflammation of that gland. This crural cellulitis causes the inflamed enlarging gland to press upon the femoral vein producing an indentation on its inner surface. This projection into the lumen of the vessel causes an eddy or backwash in the current of blood with consequent disintegration of the white blood corpuscles and phlebitis results. The inflammation continues, the stroma of the gland increases in density and chokes up its

efferent lymphatics with a stasis of lymph as a result. (*Lancet*, 1883).

Dr. Brun, of Paris, regards a preëxisting lesion of the vein as a pathogenic cause which may be due to vitiated nutrition, cachexia or some severe febrile condition. That the nervous system also sustained a causative relation to the disease was once strongly supported.

During the course of the disease the lymphatics often can be seen as red streaks and felt as hard cords along the course of the limb. Hence one of the causes of phlegmasia dolens is a puerperal lymphatic thrombosis generally coexisting with a venous thrombosis, an arrest of circulation and serous effusion following.

Though it is generally accepted as a phlebitis, we must agree with Charpentier when he aptly says, that it is a phlebitis of a peculiar nature and although depending upon the puerperal state it differs essentially from other varieties of phlebitis and particularly from uterine phlebitis.

We may conclude then that the chief factors in producing the disease are thrombosis of the venous and occasionally of the lymphatic system. This explains the swelling, pain, œdema and mode of resolution of the disease.

The disease is more common among pluripara than among primipara, and occurs rather among the feeble and delicate. Accidents, the complications of delivery, especially version and removal of retained placenta are often the exciting causes. Pressure of the fœtal head in either iliac fossa followed by pain and malaise have been believed to cause the appearance of this disease in the pregnant woman.

As to its frequency there is no agreement, thus Wyer met with five cases out of nine hundred and ninety, Hall in four hundred cases saw eight, Robert de la Tour met with it four times in thirty-six years; Hervieux, of Paris, observed it six times in two years. But as these two years were spent in the service of a maternity hospital, his rather unusually large ratio can be explained by that fact. I have treated four cases in a period of nearly seventeen years. We may conclude then that though its frequency cannot be exactly determined, it is not encountered very often. As a matter of curiosity it may be noted here that Bedford has said that statistics have proved that the left leg is more prone to be attacked than its fellow. Sometimes, though rarely, both legs may be attacked. Ramsbotham thinks that the left side is oftener affected, possibly because of the different distribution of the spermatic vein, the right vein emp-

tying directly into the *vena cava* and the left one into the renal vein.

Hæmorrhage during or after labor seems to favor the occurrence of an attack of the disease, and authors have observed that on this account it is relatively of more frequent occurrence in those patients who have had placenta prævia.

One attack does not necessarily predispose the individual to a recurrence of the disease in subsequent pregnancies. When it does reappear, it has been my experience in common with others that the attack is apt to be milder; occasionally also a translation of the attack from one leg to the other is observed.

The attack usually makes its appearance in from one to four weeks after delivery. The patient complains of a dull pain at first usually in the calf of the leg. Pressure aggravates the pain. Swelling follows and the skin becomes tense, shining, glazed and transparent. Before swelling appears, red streaks can be observed along the course of the limb, the veins at the same time having a tense, cord-like feel under the finger. The leg assumes a white glistening appearance, hence the name milk leg. As the swelling appears the pain diminishes. Febrile movement is present. If the thrombosis be below at the ankle it is primary. When it extends from inguinal fold downwards it may be secondary to thrombosis in the uterine sinuses.

Recovery from this affection is slow even when the attack terminates by resolution. Suppuration and gangrene may supervene, which naturally will prolong its duration. Sudden death is liable to occur in consequence of migration of the detached thrombus which will be swept along in the current of blood until arrested in the pulmonary artery.

Boislinière, of St. Louis, Missouri, reported at the Ninth International Medical Congress two cases of this disease followed by gangrene, which necessitated amputation. Dr. Bogue related a similar case to the Chicago Medical Society on March 17, 1879.

In most cases the ordinary sensibility of the leg is impaired for a long time afterwards. The patient may continue lame for considerable time and may complain of a wooden feeling in the limb. A varicose condition of the veins has sometimes followed. Thrombus formation may sometimes begin even during pregnancy, the patient complaining of stiffness in the toes or dorsum of the foot. In these cases of phlegmasia alba dolens the œdema has been known to extend to the hypogastrium.

The prognosis of the disease *per se* is favorable. Its complications may make it dangerous. Duclos noticed that while resolution is progressing the superficial veins become more or less distended with blood showing that a new collateral circulation is going on. (Dict. de Med. Art. P. N. D., 2d ed., p. 247).

The tumefaction sometimes becomes chronic, the limb becomes enormously enlarged and irregular, simulating elephantiasis, which condition may continue months and even years.

The inflammation may be superficial or deep and its prognosis will be modified thereby. When deep, suppuration is more liable to occur. I had one case under treatment in which there was extensive suppuration with great loss of tissue, but after many months the patient recovered with a good and useful limb.

The chief ends to be secured in the treatment of the disease, are elevation and immobilization of the affected limb. To relieve pain anodyne embrocations can be used. To facilitate resorption mercurial, belladonna or conium ointments can be employed. Antipyretics are indicated to allay the fever. As already said, the limb must be raised from the plane of the body in order to promote disengorgement of the member. It should be kept warm by being wrapped up in cotton or flannel, or both. If vesicles form upon the surface puncture them and let the fluid escape. Salicylate of soda and chloral hydrate have both been vaunted in the treatment, but I cannot speak of them from my own experience.

The treatment by blisters so much lauded by the older authorities, I think would be unqualifiedly condemned at the present day.

As soon as pain has disappeared the smooth application of a Martin elastic rubber bandage is proper, and subsequently a long elastic stocking should be worn for a long period of time. The patient should be warned not to rise too soon or to make any undue exertion lest the thrombus or a fragment of it become detached and lead to the sudden death already alluded to; and finally the patient should be cautioned not to stand too long on the affected leg for the limb is thus prone to lose its sensibility for a longer or shorter time.