

On Phlegmasia Dolens. By W. P. DEWEES, M. D. Adjunct Professor of Midwifery in the University of Pennsylvania.

WE have retained the name of phlegmasia dolens, (the phlegmasia alba dolens puerperasum of WHITE,) for a peculiar condition of the lower limb, because its pathology is still as unsettled as in the time of MAURICEAU, whom we believe was the first that gave any satisfactory account of it; for the description left by RODRIGUES A CASTRO, can scarcely be tortured, by any partiality for antiquity, into the disease of which we are about to treat, though Dr. HULL complacently inclines to the belief, that he was acquainted with it. And we doubt whether the disease of the apothecaries' wife, as described by WISEMAN, was really the disease in question, as it is but casually mentioned in his chapter upon "Abscesses and Corrosive Ulcers arising from Distempers of the Womb in Childbed," and what renders it especially doubtful, is, that he declares, matter formed in various places.

There cannot be a question however, that Mauriceau was well acquainted with this disease; as his description is still a pretty faithful one, in the main. By this author, and several others, the disease was attributed to some derangement of the lochia, which when not sufficient, was thrown upon the large nerves of the thigh, and thus created pain and swelling, &c. From the time of Mauriceau, to that of PUZOS, the disease appears to have been familiar to a number of practitioners, as MANNINGHAM, MESNARD, &c.

It was however found, after a time that the appearance of this disease did not obey any particular state or condition of the lochia; and that as it was very commonly accompanied by a diminution, or suppression of the milk, a new hypothesis was invented, and it was made to consist, of a metastasis of this fluid. Puzos with a great show of reason, has a prior claim to LÉVRET, for this suggestion; as the latter himself refers to the former's "Mémoires sur les dépôts laiteux," and speaks

approvingly of them. These great men were followed by ASTRUC, who treats expressly upon this subject. SAUVAGES, fully adopted these notions in his nosology, and treated of them under different genera and species.

VAN SWIETEN, LIBUTAUD, RAULIN, SELLE, &c, all seem to have acknowledged the great influence of the milk upon the constitution; and each has treated of its metastasis.

Mr. White of Manchester, was the next to invent a theory of this disease; he made it consist of an obstruction, rupture, or a disordered condition of the lymphatics, and he was followed in this opinion by others. Mr. TRYE pretty freely criticized the opinion of Mr. W. and said that, though he could not discover any grounds for supposing the trunks of the lymphatics to be ruptured in labour, "yet he could easily conceive, that the obstruction to the return of the lymph may commence in the primary inflammation of a trunk or trunks, and that probably this may be the case more frequently than he had hitherto discovered, or suspected it to be." Mr. Trye was followed by Dr. Hull, in a valuable and highly learned work upon this obscure, and debatable disease. Dr. H. says, "the proximate cause consists in an inflammatory affection, producing suddenly a considerable effusion of serum and coagulating lymph from the exhalents into the cellular membrane of the limb." Dr. DAVIES, of London, next offered new pathological views, of the proximate cause of phlegmasia dolens, and makes it consist in an inflammation of "one or more of the principal veins within and in the immediate neighbourhood of the pelvis, producing a thickening of their coats, the formation of false membranes on their internal surface, a gradual coagulation of their contents, and occasionally, a destructive suppuration of their whole texture; in consequence of which, the diameters of the cavities of these important vessels become diminished, sometimes so totally obstructed as to be rendered mechanically incompetent to carry forward into their corresponding trunks the venous blood brought to them by their inferior contributory branches."^{*}

Thus, we have five different hypotheses, for phlegmasia dolens; of either of which it would be difficult to make a choice, if we consulted their value, either, in relation to the phenomena this disease presents, or to the pathological condition of the parts affected, as far as has yet been revealed, by dissection. On these several opinions, we shall pass a few remarks; and believing neither to be the true proximate cause, that it is right to give the arguments against each, that

* Lond. Med. Chir. Trans. Vol. XII. p 426.

our reading has supplied us with, as well as those, that has suggested themselves to us from attentively having observed the phenomena of this painful affection.

The two first opinions, (namely, that phlegmasia dolens is caused by some derangement of the lochia, or from a metastasis of the milk,) will scarcely require a remark; as subsequent observation, has abundantly proved, that neither has ever had the slightest agency in its production, even as a remote, or as an exciting cause. And further, were either or both, to be admitted as contributing to this affection, the pathological condition of the seat of the disease, as caused by them, would still remain unexplained.

Mr. White of Manchester, must be considered the first writer, who had attempted a pathological exposition of phlegmasia dolens; and much credit is due to his industry, and learning upon this subject, though we cannot yield to him the merit of having been satisfactory, or perhaps even clear. He declares this disease,

"Is owing to the child's head pressing the vessel or vessels which arise from the lower extremities, against the brim of the pelvis during a labour pain, so as to stop the progress of the lymph; that the number of valves will effectually prevent it from regurgitating, and if the head continues any time in this situation, while the lymph is driven on through the valves by the peristaltic contraction of the coats of its vessels, by the great exertion of the muscles, and the strong vibration of the inguinal artery, though its coats (the lymphatics) should be allowed to be stronger than those of the blood-vessels, it must at last burst and shed its contents. When the orifice made in the lymphatic is healed, and the diameter of the tube is contracted, or totally closed by the cicatrix, the lymph is retained in the lymphatic vessels and glands of the limb, and the labia [labium] pudendi, and distends them to such a degree and so suddenly, as to occasion great pain and swelling, which always begin in the part next to that in which the obstruction is formed, and when the obstruction is in part or wholly relieved, or the lymph has found a fresh passage, the part next to it is consequently relieved." pp. 49, 50.

He adds, "If the above hypothesis be true, the predisponent cause may in all probability be a weakness in the coats of the lymphatics in such subjects only, as have these vessels formed into one principal trunk under Poupert's ligament." p. 55.

Objections to these conjectures of Mr. White will readily present themselves; for it supposes that some obstructing cause or pressure to be absolutely necessary. Now, if it be even admitted that the child's head affords this pressure, at the brim of the pelvis in some cases, it could not have done so in all the instances, in which this disease has appeared. For, 1st, this pressure cannot take place to the necessary extent, but in a very few instances; for it is notorious to accoucheurs, that for the most part, in a well-formed pelvis, the head may be even

larger than it is usually found, and yet pass without difficulty. 2d. The portion of the brim of the pelvis at which, in ordinary circumstances, this pressure is found to exist, is not that at which the lymphatics would be subject to its influence; for as a general rule, it would be behind either of the acetabula. 3d. That no other part save the head, could effectually exert this pressure; yet it is agreed on all hands, that no position of the child yet discovered, is more efficient in its production than another. 4th. That a pressure so long continued and so effectual, "as to stop the progress of the lymph," and eventually to cause a lymphatic to burst, must necessarily produce upon the intervening parts, a gangrenous condition; yet this is a casualty, we have never heard of. 5th. Several circumstances connected with the history of this disease would still remain unaccounted for; as the occurrence of the disease in the opposite limb; and this not simultaneously, but after a considerable interval; and not until after, as a general rule, the first affection is yielding; to the pain and swelling first occurring in the calf of the leg, as it sometimes does; for if Mr. White's statement be true, that "*pain and swelling always begins in the part next to which the obstruction is formed,*" p. 51, the pain and swelling must primarily exist in this part of the limb; therefore is not indebted to pressure exerted on the brim of the pelvis for its existence.

The arguments just urged might appear sufficient for the purpose intended by them; but as several conclusive ones have been employed by Mr. Trye to the same end, we think we should not be rendering justice to this gentleman did we altogether omit them. He observes, that

"No experiment has shown that the lymphatics can be torp, without doing equal violence to the other vessels of the part. That practical anatomists have ascertained that these vessels will bear a weight of quicksilver, equal in effect to a much greater force than is required to circulate the lymph towards the thoracic duct. That the force exerted by the child's head in its passage, cannot exceed that of the pad of a tourniquet on the arm or thigh. That if the trunk of a lymphatic be compressed, its contents are forced inwards towards the thoracic duct if no obstruction exist; in this case its sides are squeezed together, and will consequently occupy so little space, that it cannot be well ruptured at the compressed part. If a rupture then takes place, it must be below the compressed part—but no reason can be given for this taking place always in one place, namely, within Poupart's ligament, rather than in the leg or thigh."

Besides, we have known two instances of this complaint to follow abortions in the early months; and once in a premature delivery between the sixth and seventh month; in this instance, the child had been dead at least one month previously to its delivery. Again, my

friend Dr. CHAPMAN informs me of a violent case having occurred in a patient in our Alms-house, labouring under cancer uteri. But above all it has happened to the arm of the male, as recorded by Dr. FERRIAR,* besides an instance, of the same kind, that fell under our OWN notice in 1788. A gentleman, pretty far advanced in life, received a severe contusion on the point of his shoulder, by the overturning of the mail coach. He however paid but little attention to it, and merely rested it in a sling, as it did not prevent his attention to business for several days; but at the end of this time, the arm became very painful, and swelled rapidly, considerable fever was excited, and the gentleman was obliged to keep his bed. The controul of the motions of the limb was entirely lost, as every attempt to move it was attended by exquisite torture. The character of the swelling was precisely that of the *milk leg*, to which it was compared at the moment, by my preceptor—that is, he declared, had the same affection befallen the leg of a lying-in woman, he would have called it a *milk leg*. After a tedious, and an active treatment of three months, symptoms of amendment showed themselves; but it required a long time to restore the limb to its former usefulness—indeed, from what we afterwards learnt, it never became as strong as the other.

This case is not unique; several instances of this kind are upon record; all of which, perhaps, are not entitled to the distinction. Dr. Ferriar's case is perhaps one, that could not be quoted as a genuine instance of *phlegmasia dolens*; nor do we regard the one related by LITTLE, under the care of LUMINIER, to be without exception, as there was well-marked red inflammation.† Yet that related by Dr. HERRMAN'S appears to have been a genuine instance of *phlegmasia dolens* in the male.‡

Besides, we are informed, that *phlegmasia dolens*, has happened to women not pregnant; of this we can only speak from the authority of others, for we have just said above, that this took place in a patient under the care of Dr. Chapman, in our Alms-house; and Dr. BROOK mentions a case where it took place in a woman of fifty-two years of age.

Dr. MOORE, of Ipswich,§ makes a singular remark upon the opinions of Mr. White; the force of which we cannot perceive, though it purports to overthrow his doctrine at once. He says, “in refutation of Mr. White's opinion, I will state, that in no

* Medical Histories, Vol. III. p. 92. By Dr. Ferriar.

† Medico-Chirurgical Review, for April, 1829.

‡ Dr. Francis' Memoir, p. 9.

§ New England Medical Journal, Vol. II. p. 229.

instance that has come to my knowledge, has the disease preceded parturition." Now, how this refutes Mr. W.'s opinion we cannot understand; for in no instance does Mr. W. require that parturition should always happen before this disease can be produced; and in our humble opinion, had Dr. Moore have known an instance of phlegmasia dolens preceding parturition* it would have told very much more against Mr. W.'s hypothesis, as the great agent in producing this disease, in Mr. White's opinion, would have been wanting; namely, pressure from the child's head during labour. But Dr. M. should have not attempted to pass his want of knowledge of such cases for more than it is worth; since many cases of the kind alluded to may have taken place, without his being apprised of them; for certainly it has happened, as stated above, that this disease has occurred to unimpregnated females. Now if this be so, we do not see by what law of pregnancy, the woman is secured against an attack.

By the by, we may remark, that Dr. M. dismisses the hypotheses of Mr. Trye and Dr. Ferriar still more cavalierly, and with still greater brevity. Of the first he says, it "is mere supposition;" of the second, "in reply to Dr. Ferriar, I will adduce the fact, that phlegmasia dolens as frequently follows natural and easy labour, as difficult and laborious."

These assertions of Dr. Moore, purporting to be refutations, were to pave the way for the explanation which he offers immediately after, in the following terms.

"After an attentive observation of cases, and a careful examination of the subject, I will humbly offer the following explanation as the most satisfactory to me."

"During gestation, the abdominal muscles, their vessels, and integuments, are in a state of great preternatural distention; immediately after parturition, when the distending cause is removed, these parts powerfully contract in order to regain their natural dimensions. If this effort be unequally exerted, if it be suddenly excited by the application of cold, if the lymphatic vessels be over-distended at the time of plethora, or great debility subsists in the vessels themselves, an interruption and accumulation of the fluid causes, the great and long accumulation of which, acting as an extraneous and offending cause, will occasion inflammation. In persons of a plethoric and irritable habit, inflammation may quickly supervene; while on the other hand, in a person of a contrary habit, it may be more tardy in its progress." p. 230.

We would now ask, if ever hypothesis was more heavily laden with conjecture, and supposition, than this—it has not even the merit

* Puzos relates two instances of this kind; one took place at the 4th, and the other at the 7th month of utero-gestation. And we have seen two instances in which it followed premature delivery.

of ingenuity, much less an imposing probability to reconcile its meager pretensions. The initial postulate is not founded in fact, for we cannot look upon the distention imposed upon "the abdominal muscles, their vessels, and integuments," as "preternatural," since, in being put upon the stretch by pregnancy, they are but performing one of the offices for which they were designed. His second is no better grounded; for, after parturition has removed the distention, "the abdominal muscles, their vessels, and integuments," do not "powerfully contract in order to regain their natural dimensions;" for this is performed silently, and gradually, and requires for its completion many days. We have just shown how reluctant Dr. M. is to permit either Mr. Trye, or Dr. Ferriar, to conjecture, or to suppose; yet, he says himself, in the attempt to make out his explanation, "if this effort," &c.; "if it be suddenly," &c.; "if the lymphatic vessels," &c.; such and such things will happen. That is, we shall have inflammation from an accumulation of lymph in the lymphatic vessels; and in what essential point does this "explanation" differ from that of Mr. White, or Mr. Trye? in none that we can see, if we except the agent by which the interruption to the circulation of the lymph is effected—in one instance it is the head of the child; in the other it is *cold and debility*.

We should not have thought it necessary to notice this "explanation" in an especial manner, did not the doctrine it inculcates lead to a mischievous, and reprehensible plan of treatment; for the doctor observes—

"In the ordinary mode of treatment, much time is lost in the inefficacious use of diuretics, and much mischief and pain produced by the application of blisters, and other stimulating remedies." "From the view here taken of the subject, I am fully disposed to regard it as a local disease, and decidedly recommend the early application of a large emollient poultice, which, by its relaxing and resolving power," (recollect the doctor's opinion of the cause of the disease, is, debility and over-distention,) "will, in a great majority of cases," (has he ever seen a sufficient number to determine this important point? the doctor only mentions two cases, and neither of which, was the disease in question,) "prevent the formation of a distressing and tedious disease. And when it does not produce this most desirable effect, I should recommend its continuance, with an intention of producing early suppuration, which I think next to resolution, the most speedy and safe termination of the disease." p. 251.

Was ever a disease less understood; or a more preposterous remedy, ever proposed! The continued application of an emollient poultice is every thing that is necessary for the relief of a milk leg!

We have good grounds for believing Dr. Moore had never seen a case of phlegmasia dolens, if we take the two cases he details as spe-

cimens. In the first case, the patient complained of a pain in the right hip and back; rigors and watchfulness; *a rigidity and soreness of the abdominal muscles*; pain in moving the limb; *the pulse a little increased, slight thirst, and perfectly clean tongue*. For this state of things, antimonials, cathartics, and fomentations were prescribed. These proved ineffectual; bark, guaiacum, and a continued blister to the thigh were employed.

"This course evidently increased the local affection. *The upper part of the thigh, the inguinal glands, and right iliac region, become more tumefied, which gradually extended to the hypogastrium and labium pudendi.*"

"In the early stages of the swelling it appeared in ridges and bunches, occasionally assuming a livid, and at other times a purple hue."

It became more uniformly diffused, tender, hotter than natural, shining, but not much discoloured. The fever kept pace with the local affection; the pulse was small and very frequent. The swelling increased. "With an intention of rousing the action of the absorbents, a volatile stimulating liniment was applied, and in turn hot vinegar; but these had no better effect than the blistering!"

Digitalis was now administered; this increased the debility; *the inflammatory appearances became more evident; the pain, heat, soreness, and redness increased, until a discharge took place from a ruptured lymphatic in her side, about an inch from the inferior spinous process of the ilium.* p. 228.

The second case is still farther removed than the first, from being an instance of phlegmasia dolens. This occurred in a person of robust constitution; it supervened on natural labour. On the second day after the delivery, the patient experienced a great rigidity of the abdominal muscles, which increased in tenderness, and presented an appearance of "ridges and bunches;" the constitutional symptoms high; these increased until suppuration took place from an "opening a little below the navel."

We have italicized such parts of these histories, as show at once, that they were not instances of phlegmasia dolens; and also such, that have excited our wonder in regard to treatment. If the cases just related, and others, that we shall have occasion to mention presently, be received as genuine instances of phlegmasia dolens, the pathology of this disease will remain unsettled to the end of time.

We have already cursorily mentioned the opinion of Mr. Trye, of the proximate cause of phlegmasia dolens; we shall now develop it more in detail. He says, p. 70—

"I have considered the proximate cause of the swelling to be seated in the lymphatic glands. I will not contend that it must be so universally, because

there is a probability, that the original seat of obstruction and inflammation may, in some instances, be in the principal trunks of the absorbents within the pelvis, independent of, and abstracted from the iliac glands; in which case the inflammation may be continued along the absorbent vessels downwards; that is, towards the labia pudendi, leg, &c. as well as upwards, or towards the thoracic duct."

Dr. Ferriar is also mentioned as an inventor of a theory for phlegmasia dolens; but he does not appear to be entitled to this claim, since he has only adopted the opinion of Mr. Trye upon this subject. And were we even to admit he had not seen Mr. T.'s work, he must at least have been familiar with the opinions of Drs. Denman and Latham. The lectures of the former he most probably attended.

We shall make no observations upon the opinions of Mr. Trye and Dr. Ferriar, until we have noticed the hypothesis of Dr. Hull, which we shall now give in his own words. He states, that—

"From an attentive consideration of the whole of the phenomena observable in this disease, and of its remote causes and cure, no doubt remains in my mind, that the proximate cause consists in an inflammatory affection, producing suddenly a considerable effusion of serum and coagulating lymph from the exhalents into the cellular membrane of the limb." "The seat of the inflammation I believe to be in the muscles, cellular-membrane, and inferior surface of the cutis. In some cases, perhaps the inflammation may be communicated from these parts to the large blood-vessels, nerves, and lymphatic vessels, and glands imbedded in them."

We have united the hypotheses of Mr. Trye, Dr. Ferriar, and Dr. Hull, because they are essentially one and the same; namely, that the proximate cause is an inflammation of the lymphatics and glands of the groin; though as a whole, Dr. Hull's assumes a much broader ground; so much so indeed, that Dr. Davies styles it with much point, "a capacious theory."

The objections which present themselves to these explanations, are, first, their incompatibility with one especial phenomenon of the disease, namely, the *shining white* appearance of the limb throughout the whole course of the disease; and this so notoriously so, as to have it as one of its genuine characters. In all instances of inflammation of either, muscle, skin, lymphatic,* or blood-vessels, redness is a

* In the time of Dr. Hull, the term "lymphatics" was understood to mean the lymphatic absorbents; the researches of Bichat had not then made it necessary to distinguish this set of vessels, and those whose office it is to convey the lymph, being either the termination of arteries, or the beginnings of veins. And we beg the reader to keep in mind, that where "lymphatics" are mentioned in the quotations of either Mr. White, Mr. Trye, Drs. Hull, Ferriar, or Moore, that the lymphatic absorbents are to be understood.

never-failing attendant, as is well known to all who are familiar with disease. Yet this does not happen in phlegmasia dolens, notwithstanding the numerous tissues Dr. Hull involves in the mischief. 2d. That were all these tissues in a state of inflammation, this inflammation would manifest itself by the ordinary phenomena of this affection; namely, heat, redness, swelling, pain; yet we find redness always wanting in phlegmasia dolens, when this disease is pure and uncomplicated. If muscle be inflamed, redness is sure to be present; if the skin, the same thing occurs; if the trunks of lymphatics, (absorbents,) be the seat, we have frequent opportunities to witness that they become red; and when the lymphatic glands are in this condition, redness notoriously attends. And though Dr. Hull does not suppose, that all these parts are simultaneously affected, but successively, yet it alters not the fact, that in phlegmasia dolens redness is always absent during the whole course of the disease.

3d. Besides, this progressive extension of inflammation cannot well be sustained, as the rapidity of the disease is such sometimes, as to involve the whole limb in the course of a very few hours; whereas the transmission of inflammation by contact even, is sure to be much slower; yet it would not fail to betray its progress by all the phenomena of inflammation, were it to exist in such parts.

4th. When the lymphatic glands become inflamed by the absorption of some acrid substance, or specific poison, the venereal poison for instance, they not only become red themselves, but the lymphatics even that convey the poison, can be distinctly traced in their course, by the vivid red that marks their inflamed coats.

5th. The ordinary inflammation of the several parts declared to be involved in phlegmasia dolens, moreover, do not thus suddenly effuse serum; of this, proofs, in the progress of this affection, present themselves every day, as in rheumatism, wounds, contusions, the insertion of poisons, &c.

6th. When the lymphatics are inflamed, together with their glands, it is acknowledged by Dr. Ferriar himself, that "the vessel can be distinctly traced in its course by its hardness and enlargement, and frequently by a slight inflammation of the superincumbent skin, forming a red or purple streak, and extending with the affection of the vessel."²

7th. We do not agree with Dr. Ferriar in the assertion, that "the violent pressure on the internal iliacs, and the accompanying veins and nerves, which takes place during delivery, must undoubtedly be

* Med. Hist. Vol. III. p. 95.

considered as a powerful occasional cause of *lymphatic inflammation*." p. 190. Now, if this were true, phlegmasia dolens would be of much more frequent occurrence than it is found to be; since this pressure is common to all labours, yet the disease in question is one of very rare occurrences.

8th. Because in phlegmasia dolens, one of its inseparable characters is the exquisite sensibility of the *whole limb*; so much so in most instances, that the patient cannot bear the slightest pressure, or the slightest motion, yet Dr. Ferriar informs us, that "the pain in *lymphatic inflammation* is referred to the enlarged *glands*, and is not remarkably increased by motion; there is more stiffness than actual pain in the whole limb." p. 102.

9th. Because, in the twelve or fourteen cases of exquisitely formed phlegmasia dolens, that we have seen, we never were able to trace the "inflamed lymphatics," or to feel the "enlarged conglobate glands;" yet, both of these circumstances are declared to be constantly present, by those who espouse the pathology under consideration.*

10th. Because, Dr. F. furnishes a case himself, which disproves his own explanation, viz. :—

"Jane Waters, aged twenty-five, was delivered by an accoucheur, of her second child, December 26th, 1797, after being four days in labour. During delivery she lay upon her left side. December 27th, she was affected with pain and swelling of the left knee, which descended to the leg and foot of the same side. On the 28th of December the swelling began to rise from the left knee and to affect the thigh. It extended up to the left groin and labia pudendi. I saw her for the first time on the 3d of January, 1798. I found the swelling tense, uniform, not discoloured; that there was a great sensation of rigidity in the limb, and that it was extremely painful on being touched or moved. She felt exquisite pain in the ham, where I could perceive the lymphatics a little enlarged. The glands of the groin were not affected." p. 127.

In this case there was an exquisitely formed phlegmasia dolens; for it was attended by all the essential characters of the disease; the limb was exquisitely tender to the touch; the swelling was uniform and elastic; it was not discoloured; the glands of the groin were not affected, and the lymphatics in the ham could be perceived to be "a little enlarged." Here then was a case of genuine milk leg, without

* Dr. Hull declares the same inability; he says, "I have never met with either enlargement or inflammation of the lymphatics in any stage of the complaint; I am therefore convinced that this is a rare occurrence, and by no means essential to the disease."—*Essay on Phlegmasia Dolens*, p. 116. It will therefore be perceived that our observations only apply to Dr. Hull, as far as he admits the lymphatics to be involved.

inflamed "lymphatics" or "conglobate glands." We think we have said enough to prove that this pathology is not well founded; and that, if inflamed lymphatics, or enlarged glands be present, that they are the consequences, and not the cause of the disease called *phlegmasia dolens*.

The next hypothesis in order, and it is the last with which we are acquainted, is one of late date; it is by Dr. David Davis, a teacher and practitioner of considerable celebrity in London.

Dr. Davis attempts to prove, that *phlegmasia dolens* is the consequence of an inflammation of one or more large veins; ending in the production of an extraneous membrane or other obstructions, within their cavities; and thus offering remoræ, to the returning blood from the extremity.

This view of the subject, from its supposed truth, has gained much more notoriety, than can be sustained by facts; though supported by the powerful aid of VELPEAU; and we may add that of BOVILLAUD and RIBEX. When we say this, we would not wish to be understood as implying the slightest disbelief of the truth of Dr. Davis's statement; on the contrary, we are fully persuaded that neither he nor the gentlemen who, both directly and indirectly, support his doctrine, have set down nothing that they did not see—the only question then is, were the dissections of these gentlemen cases of *phlegmasia dolens*? this is the point at issue—whether phlebitis and *phlegmasia dolens* are identical; or in other words, are the cases related as cases of the latter, any other than instances of the former?

Before we proceed further in the examination of this question, it will be proper to determine the absolute character of *phlegmasia dolens* from the best accredited practitioners; for to them alone should the appeal be made. And perhaps one of the older writers of this kind, will be the safest guide upon this occasion. CALLISEN has summed up the characters of this disease most happily in a very few words, making allowance for the introduction of one of its supposed causes in his time, namely, a metastasis of milk. "Œdema puerperarum, aliis lacteum est tumor elasticus, albescens, renitens, calidus, dolens, foveam impressi digiti haud retinens, puerperis haud infrequenter, gravidis rarissimis infestus." He has, however, omitted a very material feature of the disease, namely, fever; for, as far as we have seen, this condition of the system has always been present, and sometimes to an alarming degree.

The essential characters then of *phlegmasia dolens* may briefly be stated to consist of the following strongly marked characters. 1st. Fever always to a greater or less degree. 2d. Pain generally com-

mencing in the hip, groin, and sometimes the back. 3d. Swelling commencing at the seat of pain, and proceeding with more or less rapidity down the whole limb. 4th. The swelling elastic, not retaining the impression of the finger. 5th. The whole swollen part white, even more so than natural in some instances, but never red, when uncomplicated. 6th. The whole limb exquisitely sensible to the touch. 7th. Total inability to move the limb, and action always creating great suffering. 8th. The temperature of the whole affected part, much above the natural temperature. 9th. The labium pudendi of the diseased side, almost always participates in the swelling, but never extending to the other labium, unless the other limb be also affected. 10th. After the first leg begins to improve, or is perhaps nearly well, the opposite leg runs through a similar course, and sometimes with an aggravation of symptoms. 11th. That the limb thus affected, rarely suppurates. 12th. That this disease is rarely attended by danger. 13th. That after the more violent stage of inflammation is abated, which generally happens, under proper treatment, about the sixth or eighth day, that the swelling abates its elastic character, and takes on that of a common œdema. 14th. The milk usually diminishes, and sometimes disappears.

We have been thus particular, yet we trust strictly faithful, in enumerating the essential characters of phlegmasia dolens, that the coincidences and discrepancies between it and phlebitis, may be more readily subjected to comparison.

Symptoms and general character of Phlebitis.—In giving an analysis of the symptoms of phlebitis, we have chosen the one condensed in the *Medico-Chirurgical Review*, Vol. IV. p. 509, from *Recherches Cliniques pour servir à l'histoire de la Phlébite; par M. J. Bouillaud, M. D. Revue Méd. Avril et Juin, 1825; and from Exposé succinct des Recherches faites sur la Phlébite; par M. F. Ribes, M. D. Revue Méd. Juillet, 1825.* We have done this in preference to other authorities, because they are the latest who have written on this subject, though we have no evidence that they consider this affection constitutes phlegmasia dolens. We shall give the English version, as contained in the above named Review. First, of Dr. Bouillaud.

Symptoms.—1. The symptoms of inflammation in the trunk of a superficial or external vein are easily recognised. The member swells, becomes hot, painful, or is even the seat of phlegmonous erysipelas. The vessel itself feels tense, hard, knotty, or like a cord. It becomes not unfrequently firm in the course of the vein. The pain, our author thinks, is more dependant on an affection of the neighbouring nerves, than on inflammation of the vein itself. *Œdema of the limbs is a very common attendant on phlebitis of one or more of the principal veins, and evidently arises from the mechanical obstruction to the return of the blood—the*

veins being now acknowledged to be the principal conductors of the serous exhalations, (see note * to p. 74,) that take place into the cellular tissue. Such are the signs of local phlebitis.

"2. When the inflammation extends to the whole, or to a great portion of that vast membrane which lines the internal surface of the venous system, we constantly find that a violent fever is lighted up. Among many of our patients, the fever presented all those characters which are attributed to what are called *putrid, adynamic, or typhoid fevers*; and indeed the term *putrid* is perfectly applicable, since after, nay before death, there are unequivocal signs of decomposition, or a kind of putrid fermentation of the fluids."

Second. Mr. Ribes says, "*The veins are very frequently inflamed, and this affection is a very dangerous one.*" (Yet phlegmasia dolens is a rare disease, and is very seldom dangerous.) "In incipient phlebitis, the patient experiences a slight pain in the track of the veins affected. These vessels swell and become prominent, presenting a light bluish colour, and subsequently a brownish pale hue. The circulation ceases in the vessel, and the blood becomes more or less decomposed. If the circulation should be re-established, the contents of the vein are carried into the current of the circulation, and dangerous consequences may ensue." p. 512. "Phlebitis is a serious malady, and is often quickly mortal." *Ibid.*

We have thus brought into opposition the characteristic symptoms of phlegmasia dolens, and phlebitis, which we now submit to the reader's candour to determine the strength of their analogy, or rather how far they are entitled to absolute identity. Let him run his eye over such parts of the description and consequences of phlebitis as are emphasized, and compare them with the general history of phlegmasia dolens, and he will at once, we are certain, perceive their discrepancies, and determine their entire want of sameness.

But lest it be thought that we have drawn our conclusions from premises not attempted to be sustained by Dr. Davis, we will produce in a very short compass all the symptoms detailed in his history, that he may speak for himself.

"CASE I.—Caroline Dunn, æt. 21; weak constitution; delivered on the 7th of February; severe labour; some hæmorrhage after delivery; placenta removed artificially. 8th. Pulse 90; tongue white and moist; no pain in the abdomen from pressure; soreness in vagina. On the 13th, slight fever; pulse full and quick; costive; tongue white and dry; the *labia pudendi inflamed and œdematous*; some head-ache; respiration difficult; discharge from vagina resembling cream." 17th, better; 21st, much better; 22d, still better; 26th, worse; leg and thigh much swollen; pain in the groin; no signs of inflammation; no pitting on pressure; 28th, no better; leg pitted on pressure; March 3d, total insensibility; limb equally swollen; 4th, died.

We shall introduce a part of the dissection, as performed by Mr. LAWRENCE, "which is a sufficient guarantee for its correctness." *Med. Chir. Review*, p. 381.

Dissection.—"The left lower extremity presented an uniform œdematous enlargement, without any external discoloration, from the hip to the foot. This was found, on further examination, to proceed from the ordinary anasarctous effusion into the cellular membrane." The inguinal glands a little enlarged, as they usually are in a dropsical limb, but without any sign of inflammation. The femoral, external iliac, common iliac firmly plugged, apparently by a coagulum of blood. The other veins thickened, except the saphena and branches, which were healthy. That the substances occupying the cavities of the vein, were the product of inflammation.

We cannot do better than present the observations on this case contained in a review of Dr. Davis's work on phlegmasia dolens.

"We take the liberty of differing from Dr. D. on the identity of the case described with that of real phlegmasia dolens. We ground our first doubt on the *fatal issue* of the case, which is contrary to the general experience of the profession hitherto; for it must be recollected that ZIRX's patient died of asthma, and not of phlegmasia dolens. If then there are very few cases on record where phlegmasia dolens in itself proved fatal, we have at least grounds for supposing, (we do not say it amounts to proof,) either that Dr. Davis's case was not phlegmasia dolens, or that its proximate cause was different from the proximate cause of phlegmasia dolens in general." p. 382. *Med. Chir. Rev.* Vol. V. No. 18. The reviewer asks in a note, "Is it likely that so serious and generally so fatal a disease as an inflammation of the internal coat of veins, under other circumstances, should be almost invariably devoid of danger in phlegmasia dolens?" *Ibid.*

"Our main doubt, however," continues the reviewer, "is grounded on the anatomical, or rather, the pathological difference between Dr. Davis's case, and those described by authors. We have Mr. Lawrence's authority that the enlargement of the limb proceeded from *ordinary anasarctous effusion* into the cellular substance. Does this state harmonize with the description of phlegmasia dolens as given by authors, or as seen by practitioners? It is contradistinguished, by all the writers we have perused, from *anasarctous infiltration*, (and certainly by our own observation in at least four or five cases,) by the tense, or hard, or at all events, elastic swelling of the limb—not pitting on pressure." p. 382.

Dr. Bateman runs the following parallel between the two diseases:—

"The swelling is general and equal over the whole limb; it is much harder and firmer than in anasarca, in every stage of the disorder; it is not so cold, in any state of the disease, as in the dropsical swelling, nor so much diminished by the horizontal position; neither does it pit when pressed upon by the finger, nor does any water issue from it when it is punctured by means of a lancet."—*Ross's Cyclopaedia*, Vol. 28. "When these descriptions are compared with Mr. Lawrence's dissection, we think every unprejudiced mind will agree with us that Dr. Davis's case was of a character wholly different from genuine phlegmasia dolens." p. 383.

"**CASE II.** A lady of a sanguineous, irritable temperament, died suddenly in the midst of apparently high and perfect health, on the 20th of September, 1819, six weeks after confinement. She was seized with peritoneal inflammation the day after delivery, which yielded to active measures. Ten days after this she complained of a *deep-seated pain in the groin, and along the great vessels*. Dr. D. found the *limb swelled, and very painful*, but by leeches and blisters, this new inflammation was speedily reduced, and in a week, the swelling had entirely subsided, the patient having recovered the perfect use of the limb. From this period she convalesced rapidly and satisfactorily, but died, as above stated, in the midst of apparent health."

In what possible respect can this case be looked upon as a case of *phlegmasia dolens*? Is there a single coincidence between the two diseases? The only circumstances on which even a remote analogy can be based, is "*a deep-seated pain in the groin,*" and that "*the limb was considerably swelled, and exquisitely painful.*" But will such conditions of a limb, constitute *phlegmasia dolens*?

"**CASE III.** This is a case communicated by Dr. Davis's friend, Mr. Oldknow. A woman was delivered, by an easy labour, in September, 1820. She did well for about three weeks. She was then attacked by a violent diarrhoea, for which she took astringents. Fever continued. On the thirtieth day after delivery the diarrhoea returned, and '*the left lower extremity became swollen and painful, with considerable increase of fever.*' Four days afterwards she died." p. 435.

In this case, the only pretence for calling this a case of *phlegmasia dolens*, during the life of the patient, was the existence "*of swollen and painful lower extremity;*" and no proof of its having been a case of this kind, is adduced by the examination after death. The whole attention of the operator appears to have been occupied in the examination of the blood vessels; "*the femoral vein and iliac veins were much enlarged, and contained adherent layers of coagulated blood. The same appearances, but in a lesser degree, were observed in the cava as far as the entrance of the renal veins. The coats of the veins were highly inflamed, and intimately attached to the surrounding parts. The absorbents and glands were slightly enlarged.*" These morbid changes may perhaps with propriety entitle this case to stand with those of *phlebitis*; but it has no possible right to be ranked with those of *phlegmasia dolens*.

The sudden death of this patient, we conceive, will effectually prevent this case from being acknowledged as one of *phlegmasia dolens*.*

* It is true, that in the case related by Fuzos, the patient died on the fifth day; but she appears rather to have "*died of the doctor,*" than of *phlegmasia dolens*. He relates another, that took place in the fourth month of pregnancy, and which proved fatal on the ninth day.

for we believe from what we have seen and read of this disease, that it is the first instance, if it be one, that has terminated so suddenly in death. Indeed, this termination is so confessedly rare, that phlegmasia dolens has never been looked upon as a disease of danger,* though one for a time of great suffering, and almost always one of tedious convalescence.

CASE IV. A lady of a delicate constitution, an irritable habit, was delivered on the 2d of July, 1821. She was doing well until the seventh day, on this day she was exposed to cold, and was seized with a rigor. During the forming of the hot stage, she felt a pain in her left side, which increased rapidly, and for which she was bled without much relief. She was afterwards bled, leeches, and blistered. The affection of the chest was relieved, but fever continued. In the evening of the 9th "unequivocal symptoms of phlegmasia dolens declared themselves." She died on the 23d of the same month.

"On dissection, there was effusion and inflammation in the chest, 'the left lower extremity, from the hip to the toe, was considerably, but not greatly enlarged, and there was an evident enlargement of the labium pudendi.' The iliac veins on both sides were unusually turgid with blood. When the left was opened, it was found to contain a firm coagulum of blood, not adherent to the vessel at that place. Higher up, however, in the common iliac portion, the coagulum was adherent to the internal surface of the vessel. The left internal iliac was greatly inflamed, and the diameter so much contracted as to be almost impervious."

"In the above case we have to regret that nothing is said of the state of the limb from the 9th of July, when the 'unequivocal symptoms of phlegmasia dolens commenced,' till the patient's death. In the dissection, again, nothing is said of the pathological condition of the limb. The whole attention is concentrated on the vessels. Now it ought to have been Dr. Davis's chief and main object to prove, in all those cases, that the disease was really phlegmasia dolens, by an accurate description of the symptoms and state of the limb, and then to have traced the cause if he could. But it is evident that the first and main object is almost totally neglected—or where it is adverted to, as in Mr. Lawrence's dissection, it makes against the question—and therefore we do not consider ourselves bound to subscribe to our author's etiology, without having the necessary documents respecting the symptoms and dissections of the cases."†

We cannot, however, hesitate to believe, that the swelling spoken of was produced by the inflammation and obstructions discovered by dissection, as Ribes tells us it is one of the common symptoms of phlebitis; but we must deny that, that swelling, and the swelling attending phlegmasia dolens, are of one and the same kind, as this author expressly calls it, "oedematous."

* Dr. Francis relates a case on the authority of Dr. Mann of Boston, in which death took place from sphacelus, in consequence of the limb being punctured with a view to draw off the water supposed to be present.

† Med. Chir. Rev. p. 385.

From all the facts adduced by Dr. Davis in support of his pathology of *phlegmasia dolens*, sufficient evidence is not afforded, that "the proximate cause of this disease is a violent inflammation of one or more of the principal veins within and in the immediate neighbourhood of the pelvis," &c. Nor in our opinion is this pathology sustained by the cases related by Velpeau, purporting to illustrate the cause of this disease, though they coincide with the observations of Dr. Davis.

Dr. Velpeau has drawn the same conclusions as regards the proximate cause of *phlegmasia dolens* as Dr. Davis, though not aware he had been anticipated in this, by the latter gentleman. We will briefly relate his cases—that is, we will mention every circumstance which may bear upon the question.

CASE I. Valette, eighteen years old, had a tedious labour; on the third day she was much affected by some melancholy tidings. She now laboured under an acute pneumonic affection. Eleven days after delivery, she had chills and fever, pain in the groins, hypochondria, and left side of the pelvis. On the forty-first day, the left leg was found to be swelled, with pain in the hip and groin, and ultimately in the whole limb. "The whole extremity *oedematous*." Pressure gave pain only in the groin. On the sixtieth day she died.

Dissection. "When the left extremity was cut into, it was found much infiltrated in the cellular tissue. The lymphatic glands of the groin were much swelled and red—the muscles small and pale"—crural vein red externally, and its cellular coat thickened. This was the case in all its deep-seated branches. Purulent matter was found in these veins, and pus in the cava, and purulent deposition in other places. Can any one recognise *phlegmasia dolens* in the history of this case, or in the details of the dissection? There was a swelled leg it is true—but it is expressly declared to be "*oedematous*," and this is the only resemblance.

CASE II. Damiens, thirty-five years of age. She had a quick delivery. During the three first days nothing remarkable occurred. Fourth, fever, and deep-seated pain in the pelvis. On the thirteenth day the lower extremities are much swelled and painful, especially the left. Fifteenth, breathing affected, difficulty in passing water, diarrhoea. Twentieth, the lower extremities more swelled and red, (*enflées et rouges*), belly swelled and painful. Twenty-sixth day, died. In the dissection there was nothing to justify the opinion that this was a case of *phlegmasia dolens*; or perhaps that it was a case of *phlebitis*.

CASE III. Has even less claim to the title assumed for it, than the preceding—the only possible circumstance to rest such an opinion upon is, that "there were pains in the upper and lower extremities—the latter beginning to show *oedema*."

Such are the kind of cases which of late have been foisted upon the medical public, for instances of *phlegmasia dolens*; than which, nothing can be less similar. Dr. Davis has evaded all the difficulties that might attack to a regular history of the appearances of the limb,

by declaring in some instances, that "*to-day unequivocal signs of phlegmasia dolens appeared*;" we must therefore take his word for the truth of the observation; not, however, that we would insinuate, that he would in the slightest degree misrepresent the appearances which led him to this conclusion, but that he was satisfied with symptoms which we think did not constitute the disease. The cases of Bouillaud and Ribes, are precisely of the same character as regards their relation to phlegmasia dolens, though they may be looked upon as instances of phlebitis. But to Velpeau, we cannot even accord this acknowledgment.

We find also a case recorded in the *Medico-Chirurgical Review*, for 1825, Vol. III., New Series, p. 540, which purports to be a case of phlegmasia dolens, that required the amputation of the leg in consequence of an apprehended sphacelus. The only circumstance on which the title of the case is founded, is that "*the limb was not evidently swelled, but there was a good deal of tenderness in and about the ham*." But unfortunately for Mr. Davies, the narrator of this case, he had just before informed us, that "*the limb became instantly paralyzed, from below the knee to the toes*," by a sudden metastasis of "*excruciating pain from the left loin and hip, which suddenly flew down to the leg and foot*." On dissection of the amputated limb, "*the veins were found completely distended with firmly coagulated blood; their coats were thickened, and their inner surfaces very much inflamed*." In consequence of which, Mr. Davies declares, that "*the morbid appearances tend to confirm the truth of Dr. Davis' views of the pathology of phlegmasia dolens*." To which we might perhaps agree, if there had been a single symptom of this disease present; or if Dr. Davis had proved, that phlebitis, and phlegmasia dolens, were one and the same disease; or even, if in phlegmasia dolens, that phlebitis was constantly present. This latter, however, we confess, would have been a most difficult task, as the rare fatality of phlegmasia dolens, leaves but very scanty chances to do so; while phlebitis is very frequently fatal.

Having thus reviewed the several opinions which have been offered on the proximate cause of phlegmasia dolens, we are every way assured, that they will appear to the greater part of medical practitioners, as unsatisfactory as they have to us; and, that they satisfactorily prove, that this interesting subject for pathological research, remains still unsettled. We have upon this subject but two suggestions to make; namely—1st, be the affection seated in whatever tissue it may, its character is highly inflammatory; 2d, that in our opinion, that this inflammation occupies exclusively the white lymphatic ves-

sels of the cellular membrane of the several textures of the limb; for we are every way satisfied that redness is not essential to inflammation, as we have elsewhere declared. We therefore agree in part with Dr. Hull, since he admits among the tissues he particularizes as being involved in this disease, the cellular membrane as one. And in support of the opinion we have adopted respecting inflammation, we think we cannot do better than to employ his arguments against redness being a *sine qua non* to its existence.

"Should it be objected to this theory that there is no redness of the external surface of the cutis, my answer is, that redness, though a general attendant of inflammation in the human body, does not constitute inflammation, nor is it a circumstance essentially necessary to inflammation. The cheek in blushing for example, presents redness, and increase of heat to the eye and touch; but there is no pain, consequently no inflammation. The cornea on the other hand, when we cannot trace a single vessel carrying red blood beyond its margin, is frequently affected with inflammation, there is pain, heat, &c., and small abscesses, or ulcers, or depositions of coagulable lymph, commonly called specks or pearls, take place in it. Animals which have no red blood in any part of their system, are not exempt from inflammation. And the less acute kinds of inflammation, which take place in the membranes of the brain, the pleura, peritonæum, tunica vaginalis, testes, &c., are not always characterized by an evident redness, especially when an extravasation of coagulating lymph, or a large effusion of serosity soon happens and moderates them, as in peritonitis *conjunctiva*, and in apoplexia *hydrocephalica* Culleni, and the acute stages of hydrothorax, ascites, and hydrocele. Hence it may happen, that when the symptoms of a disease induce the attending physician to consider it as a phlegmasia, dissection may be supposed to show, that he is mistaken as to the nature of the complaint, if redness be admitted as an essential mark, a *sine qua non* of inflammation."

What the exciting causes may be of this disease, we are not exactly prepared to say, as it takes place in two diametrically opposite conditions of the system; namely, that of repletion, and of exhaustion. Thus, we have seen it in two highly plethoric females; with one the labour was rapid and easy; in the other it was rather tedious, and very painful. In several other, we have witnessed it to follow severe and extensive uterine hæmorrhages; and were we to decide from our own experience as to the frequency of its occurrence after any one condition of the system, we should say, it was most apt to follow severe uterine losses of blood, than from any other single cause.

Method of Cure.—However writers may disagree as regards the particular structure occupied by this disease, they are unanimous with respect to the nature of it—they all maintain it to be inflammatory. About this there can be no mistake; as all its symptoms and

* Hull on *Phlegmasia Dolens*, p. 209.

habits declare this condition of the tissue to be present. We have fever with a highly active pulse; a hot dry skin; acute pain and swelling, which is sometimes very hot; great, nay excessive soreness of the limb to the touch; great thirst sometimes; white tongue, &c. in a word, every thing that betrays an active local inflammation.

Blood-letting and leeching.—The means of cure consist in depletion from the circulating system, both general and local—we therefore abstract blood from the arm to the full extent the system will bear, at the time; and this must be repeated, if the fever be but little or none abated, and the pain be undiminished. So soon as the force of the pulse is diminished, if the fever continue, leeches should be applied to the diseased limb, in such number as shall secure the loss of five or six ounces of blood. Our practice in the use of leeches, is to have them pretty much dispersed over the surface of the limb, that their bites may not be too near each other; as they sometimes leave troublesome sores, when crowded together where the skin is much distended. The leeching may be repeated in a day or two, provided the pain, heat, and elastic feel of the swelling remain severe or unabated. We however never apply the leeches, until arterial force is weakened by bleeding from the arm; as the relief they afford, is by no means so great until this has taken place. In two or three cases we were obliged to repeat the bleeding six or seven times, and the leeching two or three, before the disease yielded.

Purging, &c.—In aid of blood-letting, we employ purging to a liberal extent, during the continuance of the active stage of the disease; and for this purpose, we prefer the saline cathartics; especially when combined with an equal weight of calcined magnesia; the following are the usual doses: B. sulph. magnes., magnes. alb. ust. ℞. ʒij. M. div. in iij. One of these portions is to be given every two hours, in a wine-glassful of sweetened water or lemonade, until they operate freely.

We have also found decided advantage in the nitrous antimonial powders, until fever is reduced, or perspiration established. The regimen, throughout the active stages of the disease, is to be strictly *antiphlogistic*.

Topical applications.—Much injury is oftentimes done, by the injudicious employment of stimulating embrocations or liniments; this should be peremptorily forbidden. No kind of application whatever should be made to the limb itself, until after the fever has abated and the pulse is reduced. When this is effected, the vinegar vapour bath may be used, two or three times a day, with great advantage; but not before.

The mode of employing this is as follows; the limb should be bared in the bed, and the bed-clothes be raised from it by means of a common hoop from a barrel, being cut in two and tied together at right angles with each other; this must be made to straddle the leg. Three bricks must be heated pretty hot, and then plunged in vinegar; after they are loaded with the vinegar, they may be folded in cloths, and one applied to each side of the limb, and the other to the foot. The bed-clothes must now be returned over the spider, to keep in the vapour arising from the bricks. This steaming should be continued until the patient complains of feeling weak; they are then to be removed. This process is almost certain to produce a copious perspiration over the whole extent of the limb. Should this however not be found to be the case upon examining the limb in fifteen or twenty minutes after the application of the bricks, but instead, the limb is found to be hot and dry, these articles should be removed, as they will not succeed if they are even allowed to remain, as the heat of the limb is beyond the *sweating point*.

When this happens we may be certain that the bricks have been applied too early—that is, before arterial action is sufficiently reduced. In this case, we must renew the depleting remedies, either general or local, or both. On this account, it is always well, to carefully examine the pulse before we have recourse to this remedy. But when perspiration is induced, the patient is almost certain to experience great relief, though temporary for some time, for the most part; it must therefore be renewed, whenever the pain becomes excessive.

Opium.—From pain, and that excessive, for the most part, being the constant attendant upon this complaint, it has been thought too generally, that opium in some form or other should be administered—but this in our hands has always been found highly injurious in the early, and active stage, of phlegmasia dolens. It should therefore never be given until the system is sufficiently reduced to bear this drug with advantage. And when it is eligible, the best mode of administering it, is by injection. And for this purpose a tea-spoonful of laudanum in a gill of warm water may be used as occasion may require. Or Dover's powder may be used at bed time in the dose of ten grains, when the system can bear with profit the stimulus of its opium, and especially when the skin is indisposed to perspiration.

As a general rule, the system will not bear the use of opium, as long as the swelling preserves its elastic character; and this is generally from six to eight days. Nor should any stimulating applications to the limb be resorted to until, the intumescence puts on the appearance of œdema; for until this change takes place, the active, inflam-

matory stage has not passed away. About the time above specified, (for we have known it happen earlier or be retarded later,) pain, heat, fever, and swelling, begin to abate, and the patient is able to support her sufferings with less complaint. She can now for the most part bear the limb to be moved; or its position changed, without so much torture though still very far from being relieved.

External applications.—We have always made the changes now spoken of, the guide for an additional application to the affected limb; (that is, when there is an abatement of the constitutional symptoms, and the swelling will retain the impression of the finger,) we now order a moderately stimulating embrocation, consisting of a beeves' gall mixed in three half pints of brandy, rum, or whiskey. With this the limb is to be bathed, (not rubbed,) two, three, or four times a day, as the patient can best bear it, having it a little warmed previously. We would here suggest a caution to the nurse, that is more important than might at first sight appear—namely, to literally bathe the part, and not to rub it. Very great mischief is oftentimes done, by not paying attention to this rule, in all local applications, for nothing but evil can follow the other mode, so long as inflammation, (however moderate,) continues to occupy the parts. But after this condition is removed, we believe that advantage may be derived by gentle friction, as it appears to contribute to absorption.

Blisters.—These remedies have been recommended by almost every writer on the subject of *phlegmasia dolens*—but why, we are at a loss to understand. For they are either not the appropriate remedies, or we have been very unskilful in their application. We have never had recourse to blistering but twice; and sorely did we repent each application. The disagreeable irritation produced by its operation in the first instance, and the tedious disagreeable ulcer that followed, we imagined might have been owing to some accidental condition of the system, or perhaps idiosyncrasy; this led us to a second trial, but we experienced the same inconveniences; since when, we have altogether abandoned their use. Before we ordered this remedy, it is but proper to state, that we thought we had reduced the system, to the proper blistering point; but on this we may have been mistaken. Besides, however the disadvantages just mentioned, arising from blistering, there are others which should not be lost sight of—namely, preventing other local applications, and especially the one mentioned above, which in our opinion is very much more useful; and secondly, by obliging the patient to maintain one position unnecessarily long, which is of no trifling moment to the invalid.

Bandaging.—This application has been recommended in *phlegmasia*

dolens by some practitioner, ab initio; but our own experience obliges us to say of it, that we have either been very unfortunate in our lot of patients of this kind, or if this be not so, that those, who have professed to have derived advantage from it, have mistaken oedema for phlegmasia dolens. For we certainly have never met with a case of this disease, that could bear without severe complainings the weight of the bed-clothes upon the affected limb, much less a tightly drawn bandage. We however must be honest, and confess, that we have ever been deterred from the application of the bandage in the early stage of the disease, from the presence of so much sensibility in the part; in the last stage, we have known peculiar benefit, derived from its use.

It is almost a constant sequence, that after all inflammation has disappeared, that the limb will remain swollen and feeble. For this condition, much advantage is derived from bandages, frictions with the dry hand, fumigating the limb with the smoke of burning rosin, and exercise in a carriage. The fumigation is conducted as follows; the patient's limb is to be placed across a tub, in the bottom of which there is a small chaffing dish with hot embers. A little powdered rosin is to be strewed upon the embers, and the fumes to be prevented from escaping by having a blanket spread over the limb and tub—this may be repeated twice a day.

It will be proper to observe that the limb should be kept a little elevated during the whole of the disease; this is best done by a board well protected by pillows, and placed under the leg, with its lower end raised as high as the patient's feelings will permit.

After the febrile symptoms have disappeared, the patient's diet may be a little more generous; she may take thin chocolate; a few oysters, chicken water, or soft boiled egg, &c.; and if there be much debility, any of the tonics in common use may be employed with advantage: and these will be aided by a well-regulated system of exercise, which must of course be left to the discretion of the physician, and to the circumstances of the patient.