PROVINCIAL MEDICAL & SURGICAL JOURNAL.

A COURSE OF LECTURES ON CLINICAL MEDICINE.

By W. R. BASHAM, M.D., Physician to the Westminster
Hospital.

LECTURE IX.

Clinical remarks on idiopathic Phlebitis: Record of the case; treatment and convalescence; probable cause of the disease; reasons for thinking it connected with the rheumatic diathesis.—Pathological conditions of the vein in phlebitis: exudation of plastic lymph; tendency of venous inflammation to centripetal progress.—Changes occurring in the plastic deposit:—I. Solution and removal.—II. Semi-organization and persistent thickening.—III. Purulent transformation and its serious consequences.—Observations on the treatment.—Cold and rheumatism considered as predisposing causes of phlebitis.

Gentlemen,—Cases of idiopathic phlebitis—inflammation of the veins occurring spontaneously—are of sufficiently rare occurrence to be of some interest to you in a course of clinical instruction. On this occasion I propose to point out to you the pathological conditions of this disease, the most frequent predisposing causes, the general principles of treatment, together with the ulterior consequences or effects of this affection, when existing independently of local injury. The case of inflammation of the saphena veins of both legs in a man in Burdett ward will afford me this opportunity. The case during its progress, may have appeared trifling to you, the symptoms being for the most part unaccompanied by pain, or much constitutional disturbance, yet, is this condition of the veins, fraught with much possible danger, the chances of purulent termination being by no means remote, and which once established excites conditions of fearful jeopardy, and rarely exempted fatality.

The ward-book reports the case of J. H., a labouring man, aged 27, admitted suffering from idiopathic phlebitis. The appearance of the patient on admission was that of a man thoroughly out of health, of somewhat anxious aspect, but not suffering any amount of pain. He states that he has felt a tense cord-like swelling in both his legs for the last seven days. There is no want of mobility in the lower extremities. He walks and moves about without pain; but commencing at the internal malleola of both legs, and extending up on the inner edge of the tibia, and between the edge of the belly of the gastrocnemius, a cord-like swelling is felt, which is slightly painful to

the touch, and the course of which is marked by a dusky red line. It is evidently the saphena major vein in a state of inflammation. The cord-like hardness extends the whole length of the vein, and is lost only as the vessel disappears under the fascia to join the crural. The same condition exists in the saphena veins of both legs. There is no swelling of the glands of the groin; no wound or any abrasion of surface on the foot, or any part of the lower extremities. Has not felt any rigors. The pulse is 84, soft; the tongue is white and moist; there is no deficiency of appetite; no thirst; no febrile heat of skin; but the urine is dark coloured, and deposits a copious precipitate of the pink urates. He has been at work in the cofferdam at the Houses of Parliament, working often for hours up to his ankles and knees in water.

He was admitted on the 20th January, and ordered Hydrarg. cum Creta et Pulv. Ipecac. Co., utr., gr. v., quartis horis. Beef tea diet, and the lower limbs to be enveloped in hot moist flannels, to be repeatedly renewed. On the next day the cord-like tension of the veins had materially diminished, and much less pain was felt on pressure. The dusky-red colour now marks the course of the veins, from the inner ankle to the groin, indicating that some smaller branches, emptying into the main trunk, are here and there likewise affected. On the 23rd slight pytalism was noticed, and in the course of the afternoon a brisk diarrhoea commenced, which was directed not to be checked unless it became urgent. The remedies were to be repeated. On the 24th the report states, that after many watery dejections the looseness spontaneously ceased, and this day no pain was experienced in any part of the indurated vein, and the dusky-red colour was now confined to the inferior part of the vein. On the 25th the cord-like tension was gradually disappearing, his general appearance had much improved, the appetite, which had not been deficient from the first, had now become craving, and he was placed on an improved diet. On February 1st he was reported convalescent, and discharged on the 2nd.

It may be mentioned as remarkable, that a man, suffering from chronic rheumatism, and in Dr. Kingston's ward, is suffering from a similar condition of the saphena in both limbs. I have no hesitation in referring the origin of this state of the veins to the effect of cold. We did not see this patient during the first period of the attack; we cannot, therefore, determine the amount or nature of the constitutional disturbance

existing at the commencement; at any rate, we are assured of certain circumstances capable of predisposing the system to such disturbance. The exposure of the lower extremities for hours at this season of the year, to the influence of cold and wet, is not an unlikely disturbing cause. Had symptoms of rheumatism co-existed with the inflammation of the saphena veins, as is the case in the patient in Bouverie ward, there could have been no difficulty in associating this state of the veins with the phlebitis accompanying the rheumatic diathesis, and which has been noticed by more than one author. Yet, notwithstanding the absence of all erratic pains, I am still inclined to refer this condition of the veins to a rheumatic origin, the state of the urine presenting all the features of rheumatism, and the exciting causes being in every respect capable of developing most of the conditions and elements of that disease.

Phlebitis from rheumatic causes may be considered as the lightest form of this most serious malady; it differs only from the phlebitis produced by wounds, or by the absorption of animal septic poisons, in that there is less tendency to terminate in purulent formation, a condition that renders these two latter affections of such momentous importance. The plastic contents of the vein in this rheumatic form of phlebitis, either dissolve or liquefy; and being thus removed, are carried away into the general circulating mass, or at most remain as a plug in the vein, becoming semi-organized, and either completely or partially obstructing the circulation through the affected vessel, the numerous venous anastomoses subsequently carrying on the current through their enlarged and dilated canals.

When a disease presents distinct external manifestations, it is convenient to consider it—first, in reference to the local symptoms; and, secondly, as to the extent of constitutional disturbance, accompanying or produced by the local disease. I wish therefore to detail to you—first, the pathological conditions of the inflamed vessels, the cord-like tension of which first arrests our attention; and, secondly, the constitutional conditions, if any, produced by the state of the veins.

It would appear from the pathological researches of the most recent observers, that the inner membrane of the veins in the earliest stage of the inflammatory process becomes discoloured, of a purplish hue, occasionally of a light scarlet, and that this discolouration is not uniformly spread over the inflamed portion, but irregularly—in patches, sometimes presenting a striated appearance. Accompanying this alteration in colour, and as the result of the hyperæmia of the lining membrane of the vein, is the exudation or deposit of plastic lymph, which, forms in layers, each succeeding layer being deposited external to the last, the whole being concentrically arranged, till the tube of the vein becomes completely clogged, and impervious to the current of the circulation. It does not, however, necessarily follow that the vein becomes totally impervious; for the fibrinous deposits do not always continue till the canal of the vessel has become obliterated. The inflammatory process being arrested, the layers of lymph have, perhaps, only lined the

canal, and considerably diminished its capacity—not totally closed it. It is now, irrespective of complete, or only partial, obliteration, that the vessel has acquired that cord or quill-like character to the sense of touch, which you felt in this case. The plastic lymph lining the vein is for the most part colourless; it has been derived from the blood, and consequent upon its isolation and deposition there occurs a serous infiltration into the outer tunic of the vein, and not unfrequently extending into the cellular tissue investing the vein. This serous fluid holds in solution the hæmaphæin, or colouring matter of the blood; and it is its presence in the serous infiltrated fluid which causes the dusky-brown red hue that externally marks the course, extent, and ramifications of the inflamed veins.

It may happen that the inflammatory action does not continue with sufficient intensity completely to plug up the canal of the vein; and I think the case before us presents us with an example. When this happens, the circulation is still imperfectly carried forward through the centre of the plastic layers; for as these layers are invariably thrown out from the lining membrane of the vein, and are added to the circumference of the plug, it follows, that for a time, at least, the circulation goes on, the calibre of the vein diminishing as each succeeding layer is added to the circumference of the deposit. As a consequence of the complete obliteration of the vein, the circulation is then maintained by the anastomosing veins.

One of the most important characteristics of venous inflammation is its tendency to centripetal progress: it less frequently extends from trunks to branches than from branches to trunks; and thence progresses towards the heart, the centre of the circulation. This is one of the conditions that causes phlebitis to be of such vital moment.

The subsequent changes that take place in the plastic mass, plugging the channel of the vein, are strictly analogous to those observed in inflammatory products in other parts of the body. One of three conditions must happen:—

1. The fibrinous mass disappears slowly, and gradually becoming dissolved, it is carried away by the restored current of the circulation.

2. The lymph becomes semi-organized, and forms a permanent addition to the inner parietes of the vein: this more frequently happens when the plastic layers have not completely obliterated the channel, but merely lessened its calibre. When this occurs, tense, quill-like hardness persists, and a subsequent examination of the vein would present its walls much thickened, its capacity diminished, and when cut across, the vein would remain uncollapsed, and as an open cylinder.

3. The third and most serious change to which the inflammatory exudation is exposed, is the special tendency that it has to pass into suppuration. It is this tendency which makes phlebitis at all times so hazardous in its consequences; the blood becomes contaminated by the purulent degeneration of the plastic layers, abscesses in different organs of the body, the liver, lungs, and other glands, are the formidable effects, and death the inevitable termination.

It must be borne in mind that the inflammatory process in some forms of phlebitis does not pass beyond the deposit of the plastic lymph, and that no farther *morbid* change taking place, the blood escapes that fearful purulent contamination, which, if once established, rarely terminates otherwise than fatally.

The case we have just seen presents us with an example of an exemption from these terrible secondary consequences; you must, nevertheless, not forget that however trivial and light the symptoms may have appeared to you, a case of inflammation of the veins from whatever cause, must be considered serious, as the tendency to purulent degeneration of the plastic mass is greater than either to its solution, removal, or semi-organization. When purulent transformation of the deposited lymph does not take place, it is often remarkable with what rapidity the plug disappears, and the function of the vein as a permeable tube is restored. In the case under consideration, in the course of a few days, the vein had become soft, and evidently permeable. Hasse states that this change is effected probably by the liquefaction and solution of the plastic mass in the circulating fluid, and a channel by this means is again opened to the sanguineous current, and there are many reasons for supposing that the exuded lymph is not removed by absorption by the vasa vasorum, but is absolutely dissolved in the blood, and carried away into the general circulation. The removal of the fibrinous deposit in this case, and the subsidence of all farther symptoms of inflammation, were consentaneous with the faint indications of pyalism produced by the small and alterative doses of mercury. From this moment the cord-like hardness disappeared, the veins in the greater portion of their course had become soft and elastic, while the dusky line which marked the course of the inflamed vessel had entirely disappeared.

Phlebitis in all its forms presents us at the outset with all the characteristics of a sthenic inflammation, and the treatment must be based on those principles which experience teaches us are most successful in arresting the results of inflammatory action. A general antiphlogistic regimen must be strictly enforced. Mercurials, with opium, or Dover's powder, are the best alteratives. The lower extremities of this patient were for nearly four days enveloped in hot moist flannels, constantly renewed. The best results have followed this treatment; the patient is convalescent, and the hardened plastic deposit in the saphena veins has nearly disappeared. The amount of constitutional disturbance was but slight; beyond the appearance that the countenance indicated of deranged health, there was no symptom of any moment declaring that the general functions of the chylo-poietic viscera were much deranged; the appetite was not deficient; the bowels not irregular; but the urine was loaded with urates, uric acid crystals were also apparent, and there was a considerable amount of purpura in combination.

From the absence of much constitutional disturbance, it would appear from this example, that it is not till the terrible condition of purulent degeneration of the plastic lymph has commenced, that any remarkable or characteristic constitutional symptoms are developed.

You must bear in mind, however, that the absence of these general symptoms is not to be taken as an index, that little is required to be done, or that the case is trivial, and needs but slight attention. So long as the vein is the seat of inflammatory action, so long as a fibrinous deposit clogs up the canal, suppuration of the plastic mass may be dreaded, not remotely, not contingently, not merely accidentally, but as a change strictly in obedience to the organic laws governing these pathological products. It must be our object, therefore, in the treatment of such cases, to avert if possible this much dreaded mode of termination. This can only be effected by the judicious and persevering application of those remedies that have been already indicated. The period of convalescence must be treated with caution; there is a special tendency to relapse in these cases; the local inflammation then re-appears with an intensity that no remedies can check, and which now passes rapidly and uncontrollably into purulent transformation and inevitable death.

The rheumatic diathesis does not often express itself by phlebitis; yet it is not difficult to understand, that in certain morbid conditions in which the fibrinous elements of the blood are in excess, and a general inflammatory predisposition exists, cold locally and continuously applied to the lower extremities, in a manner favourable to local derangement, may predispose to inflammation of the veins of those parts. There must, however, be a special idiosyncrasy to determine the inflammatory action to the venous tissues, rather than to the fibrous tissues, muscles, ligaments, tendons, or synovial membranes, as is most frequently observed in rheumatic inflammation. In fine, this case teaches us, that under special circumstances, exposure to cold and damp, acting on the rheumatic diathesis, is to be considered among the predisposing causes of idiopathic phlebitis; and that though rarely developing this disease, yet under favourable circumstances, and in peculiar idiosyncracies, these causes are competent to call it forth in its mildest, as well as in its most formidable, aspects.

THE LAW OF THE MORPHOLOGY OR METAMORPHOSIS OF THE TEXTURES OF THE HUMAN BODY.

(Fourth Series of Experimental Researches.)

By WILLIAM ADDISON, M.D., F.R.S., Malvern.

XI. STRUCTURAL CHANGES PRODUCED BY SCROFULOUS DISEASE.

(Continued from page 171.)

A man, aged 37 years, died of hæmoptysis and phthisis. The body was examined forty-eight hours afterwards.

On opening the chest, the right lung was immediately seen to be totally different from anything resembling a healthy lung; it was converted into an ash-grey coloured firm texture, which did not in the least degree collapse upon the opening of the chest, but remained bulging upward, filling the whole of the right cavity of the chest, and adhering firmly at all