

vena saphena in three cases, but they all died except one, who being a very strong man, was bled very freely, and here the practice succeeded beautifully, and the venous inflammation almost entirely subsided. But sometimes this disease is attended with low symptoms, the pulse being weak and feeble, and there is great prostration of strength. In such a case as this, it is evident you could not take blood largely; you must, therefore, be content to apply leeches to the part. Warm fomentations seem to answer better than cold applications; but this may be regulated by the feelings of the patient. Occasional purging and low diet will, of course, be most proper. Very frequently this is a consecutive disease, as it may follow an attack of erysipelas. Of course, in this case, and when it comes after cellular inflammation, the patient will not bear depletion. It is a question with some whether or not mercury is beneficial in these cases. In those which I mentioned of Sir E. Home's, which occurred when I was house surgeon to this hospital, it would doubtless have been extremely beneficial, but the administration of the remedy at that time was not thought of. In those cases where there is great prostration of strength, I doubt the propriety of its use; but where this symptom is absent, it may be employed with advantage. It, however, requires a good deal of discrimination on the part of the surgeon to determine when it is, and when it is not right to put the patient under the influence of mercury.

You will find, gentlemen, after venous inflammation, the limb is generally left swollen, and the veins are what is termed "varicose." Can any thing be done here? will a bandage do good in these cases? To a certain extent it will; but let your patient walk about, and you will find that the collateral vessels will thus become dilated so as to make up for those which have been obliterated. In some cases the swelling will entirely disappear, whilst in others, it will remain, to a certain extent, the remainder of the patient's life. I spoke of the disease in connection with varicose veins as though it only occurred in the lower extremities, but I saw it in the forearm of a patient a very short time ago, produced, as I think, by bleeding. In cases where a secondary deposition of pus takes place, very few, I think, recover, as the deposition is scarcely ever confined to one part of the body; and if you let it out in one part, there is no method of preventing its recurrence in another.

When venous inflammation has gone on some time, it is quite beyond the reach of art. But you should always bear in mind the original cause of the disease, and also the patient's previous mode of life. Many of you will recollect the case of the man last year, in whom I tied the external iliac artery; after the operation, there was a quick, irritable pulse, with pain in the opposite shoulder; and these I attributed to the man being debarred his usual quantity of stimulus. After bleeding him once, and finding he was no better, I allowed him a quantity of gin daily, and if I had not done so, I think there would have been the secondary formation of matter, as in some other cases I have described. Those persons who drink large quantities of spirits, are most liable to this deposition of matter, and, I think, it is owing,

in a great measure, to their being deprived of their usual stimulus; and in these cases you will sometimes succeed in arresting the disease by allowing the patient a certain portion of that kind of stimulus to which he has been accustomed. The general rule for treating inflammations, is by depleting remedies;—but there is another plan. Suppose a man gets a piece of glass in his arm, you would of course, in the first instance, remove it if you could, just as in chancre you give mercury to remove the cause which produced it. On the very same principle, in those cases where you have low symptoms coming on in cases of venous inflammation, produced by the withdrawal of the usual quantity of stimulus, your first plan should be to restore to the patient at least a portion of that stimulus. Let me take this opportunity of observing, that mischief is not unfrequently produced by violent changes in the patient's diet. If a man who has been accustomed to drink gin, or other stimulus in large quantities, meets with an accident, and you take him off that stimulus, you will have the injury going to a much greater extent than it would if you had not done so. And I am certain that I have been more successful in the treatment of persons who have been accustomed to drinking or high-living, by merely diminishing their quantity, than when I have had recourse to antiphlogistic treatment.

LECTURE XII.

VARICOSE VEINS AND ULCERS OF THE LEGS.

By a varicose vein, I mean a vein which is unnaturally dilated. When there is increased growth of any part, the arteries increase in size to take the blood to it, and the veins increase in size to take the blood from it. This is a healthy increase of the veins, and we do not call these veins varicose. But by a varicose vein, I mean a vein unnaturally enlarged, without the dilatation being instituted to answer any good purpose in the animal economy.

Varicose veins occur principally in three situations: in the legs; in the spermatic cord, where the disease is called *varicocele*, or *circoscele*; in the rectum, and about the anus, where the disease takes the name of *piles*, or *hæmorrhoids*. I will explain to you, by-and-by, why they occur in some situations more than in others. But varicose veins occasionally occur in other parts of the body. I have seen varicose veins of the forearm to a considerable extent. In the case to which I allude, there had been inflammation of the medium cephalic and cephalic vein. These veins had become obliterated, and, in consequence of their obliteration, the blood did not easily return from the forearm; so that the veins became varicose.

A man was admitted into the hospital who had varicose veins all down the right arm, and to a considerable extent down the right side

of the chest. He had difficulty of breathing, and cough. One day he felt as if he had received a blow on one side of the chest, and immediately a large abscess presented itself, as big as an orange externally, which had evidently made its way from the inside of the chest through one of the intercostal spaces. Immediately upon the appearance of this swelling, the varicose veins in a great measure subsided. The man died, and on examining the body after death, it was found that there was disease in the bronchial glands; suppuration had taken place in them, and a large abscess had been confined in the inside of the chest, which pressed on the right subclavian vein, and this caused the blood to stagnate in the veins in which it had its origin, and which had in consequence become varicose. So under corresponding circumstances, you may find the veins become varicose in any part of the body.

In the first of the cases which I have mentioned, the varicose disease was the consequence of disease and obliteration of the venous trunks; and such is sometimes the cause of varicose veins in the legs. There was a man in the hospital with very bad varicose veins of the legs, one of the worst cases of the kind that I ever met with. The man, however, was admitted into the hospital on account of another disease, of which he died. I examined the body after death, and found an obliteration of the external iliac vein. This vein had been inflamed at some former period, and had become converted into a thick hard cord. The blood could not flow to the heart through this great venous trunk, and so the branches below became varicose. In the other case which I have mentioned, pressure on the venous trunk was the cause of the varicose disease. And so pressure on a venous trunk in the abdomen may produce varicose disease in the legs. You have a very frequent example of this in child-bearing women. The pressure of the gravid uterus will produce varicose veins of the leg. The woman is brought to bed, the pressure is taken off, and the varicose veins in a great measure disappear. Then she becomes pregnant again; the varicose veins recur; she brings forth another child, and the veins in a great measure subside, but not so completely as before. Every time she is pregnant the varicose disease of the veins becomes aggravated, till at last it exists to a great extent in both legs.

There are few cases in which we may trace varicose veins of the lower extremity to pressure or obliteration of the venous trunks; but in the majority of cases it must be acknowledged that we cannot trace the disease to these sources. It appears, in these cases, to be a mere weakness in the coats of the veins, rendering them incapable of supporting the weight of the body. There is, of course, always a column of blood pressing downwards when the patient stands erect; and if the coats of the veins are weak, this is sufficient to render them varicose. You will understand, then, why, when the coats of the veins are weak, persons of particular habits, or of a particular physical construction, are more liable to varicose veins of the legs than others. A person who is always upon his legs, always standing or walking, is much more liable to have varicose veins of

the legs than one who leads a more sedentary life, because there is here a column of blood almost always pressing on the veins below.

Sir Everard Home has observed, that in the army the grenadier companies are especially subject to varicose veins, they being taller men than the other soldiers. Cooks are very subject to varicose veins. Why? If you put one hand into warm water, and the other into cold, you know that the veins of the former will become dilated, and that those of the latter will contract.

But where the disposition to the disease exists, do all the veins become dilated? By no means. The deep-seated veins never become varicose, because there is the pressure of the muscles upon them on every side, which prevents their dilatation. It is only the superficial veins that become varicose. The branches of the vena saphena major, and sometimes of the vena saphena posterior, become dilated. But the valves do not increase with the dilatation of the vein; they remain of their original size; and what must be the consequence? Why, the valves do not protect the venous branches below from the pressure of the column of blood above; they do not answer the purpose of valves any longer; and the want of action in the valves tends, of course, to aggravate the disease. By and by the valves seem to become changed in structure; they shrivel up, and become at last good for nothing, not even looking like valves. This is in conformity with a general law of the animal economy: a part not used wastes. If you were to tie up one eye, and cover it from the light for many years, you would find at last that you could not see with it. Muscles not used will waste. So it is with the testicles and other organs. When valves become useless, nature does not seem to think them worth keeping, and they waste or shrivel.

In a few instances varicose dilatation of the veins comes on rather suddenly: I have known cases in which the veins in both legs became varicose immediately after very hard walking. But, in general, the disease comes on slowly, and increases gradually. At first one or two veins are a little dilated, and you see the dark blood looking of a blue colour through the skin. Then other veins assume the same appearance, and by and by you find clusters of varicose veins in different parts of the leg. The skin is elevated by the clusters underneath; and it is when the skin is strained and rendered thin that you see the dark colour of the blood through it. These clusters are more frequently situated about the inner ankle, and the inner side of the leg, than anywhere else; but they may occur anywhere else, at the back or outside of the limb. Then, as the disease proceeds, it extends to the trunk of the vena saphena major, and this becomes dilated all the way up to the groin. Sometimes the saphena major looks as large as your finger, assuming a knotted appearance. What is the explanation of this? It would seem that the vein is tortuous. Varicose veins are not only increased in diameter, but in length, and of course must then be made tortuous; and where the saphena vein is twisted, as it were, upon itself, it assumes the appearance which I have mentioned. The dilatation of the vein is perceptible when the patient stands erect; but when he lies down, the

varicose appearance vanishes, because then the veins become emptied of their blood.

While these changes take place in the condition of the veins, the patient experiences more or less inconvenience. Sometimes he suffers from a sense of itching and weight about the inner ankle. The sense of weight and fullness becomes more troublesome when he takes a long walk, so as to be very distressing. When there is a varicose cluster, the patient in a few instances experiences extraordinary pain, and this, as I imagine, arises from there being some nervous filament pressed on by the tumour. Sometimes the patient complains of being subject to cramp in the muscles of the leg, especially after a long walk. Varicose clusters occasionally burst and bleed. I said, in the commencement of the lecture, that the disease is not dangerous, but that is not absolutely and universally correct. There are a few cases in which a patient may be in danger from hemorrhage. A varicose cluster becomes larger and larger; the skin over it becomes more attenuated, at last it gives way, and there is a great discharge of blood. I have heard of patients actually dying from this hemorrhage, where assistance could not be procured. I have known a great many cases in which patients have lost a very large quantity of blood from such an occurrence; and I have heard of others in which death was the consequence.

Varicose clusters of veins sometimes become inflamed. They are then tender to the touch. Frequently the inflammation is preceded by a rigor, or by an attack of fever. In some instances the inflammation extends to the skin over the cluster, the skin becomes red, and if the patient stands up, he suffers great pain in the inflamed varix, but if he lies down, the pain is in some measure relieved, though not entirely. The great pain in the erect posture is explained by the weight of the column of blood pressing on the tender parts.

In some cases inflammation of an inflamed varicose cluster will end in suppuration, and in an ulcer, but that is not the way in which ulcers connected with varicose veins generally begin. For the most part, the effect of inflammation of a varicose cluster is not to produce either abscess or ulcer. It is very remarkable that the blood in inflamed varicose veins coagulates, and the vein becomes choked up with the coagulum. There seems to be something in an inflamed vein that is unfavourable to the fluidity of the blood which it contains. You observe this not only when varicose veins are inflamed, but when veins are inflamed under other circumstances. You find this frequently in cases of piles. A patient comes to you with an external pile, which is large, and very tender—it is inflamed. At first it contains fluid blood, but in a day or two it becomes filled with solid matter; and if you slit open such an inflamed pile, you find a solid lump of dark-coloured fibrin. If you slit open an inflamed varicose cluster in the leg, under these circumstances, you will find that the cavity is filled up in like manner, with coagulated blood. I mention this, that you may recollect what takes place in these inflamed veins, not recommending the practice, which is quite wrong, as I shall explain by and by. The effect of such inflammation is to give the patient a

good deal of pain at the time, but he is benefited by it afterwards. The coagulum fills up the vein, the vein becomes obliterated, and the varicose cluster is cured: others may form, but this one is cured. So in an inflamed pile, other piles may form, but the first is cured, and never troubles the patient afterwards. By degrees the inflammation subsides, the coagulum becomes gradually absorbed; as the absorption proceeds, the sides of the vein approximate, and the cavity is obliterated.

In old cases of varicose veins, you will frequently find the skin become inflamed—that is, it will look red, and be very irritable and tender. Sometimes you find the cuticle as it were abraded, and an ichorous discharge takes place from the red cutis. In some cases the whole of the skin of the leg is in this condition. In others there is a chronic inflammation of the cellular membrane. There is effusion of serum into it, and the limb becomes œdematous. When there is disease of the heart, preventing the due passage of the blood through its cavities, the fluid part of the blood is liable to escape from the capillary vessels, and thus you have anasarca of the legs. But the swelling which takes place in varicose veins does not exactly correspond to anasarca connected with disease of the heart. It is the result of an inflammatory action in the cellular membrane; the fluid has a more distinctly serous character. If you puncture the parts with a needle, the fluid being of greater consistence, does not flow out so rapidly as the thinner fluid escapes after puncture in the case of anasarca.

The inflammation of the skin, and the inflammation of the cellular membrane, in these cases correspond with each other. There is an exudation of serum in one case from the surface of the skin, and in the other from that of the inflamed cellular membrane. These inflammations seem to correspond with those which we meet with in other cases of venous congestion.

But in some instances you find inflammation taking place of a different kind, in the cellular membrane, immediately surrounding the varicose cluster. The cellular membrane becomes infiltrated with coagulated lymph, and then the varicose cluster is, as it were, imbedded in a considerable mass of indurated substance. At first you would suppose that the veins there are obliterated, but they are not. You have a deposit of lymph on the outside, and the blood remains quite fluid. If you put your finger on the hard lump, the course of the vein is readily distinguished by the fluidity of the blood. You feel the fluid blood passing in an open channel, as it were, through a hard or gristly mass. Where there is this deposit of lymph in the cellular membrane round the vein, the skin becomes inflamed, and it may give rise to a troublesome ulcer.

But still, a varicose ulcer does not generally begin in this manner. Usually, the skin being distended at some point, a scab forms upon it. Then the scab comes off, there is an ulcer, and the ulcer spreads. The varicose ulcer, in most instances, begins about the inner ankle; but it may occur, as in the patient whose case is now before us, in other parts of the leg.

Varicose ulcers, in most cases, have a well-marked character, for which, however, you are not at this time to look in this patient, who has been confined to her bed for nearly a week. For the true character of varicose ulcers, you must look at a patient's legs who has been walking about up to the time of your seeing her. Varicose ulcers are inclined to assume an oval form, the long diameter of the oval extending in the course of the vein upwards and downwards. These ulcers are generally nearly on a level with the surface of the surrounding skin. The surface of them is dark-coloured when the patient is erect, and when the small veins are filled with blood; but when the patient lies down, the surface becomes florid. The change takes place very speedily from dark to florid, and from florid to dark. The skin, and the margin of the ulcer, are generally of a dingy-red colour, and partly deprived of the cuticle, so that it is difficult to say where the latter terminates and the ulcer begins. These ulcers are generally very irritable and painful, and sometimes are disposed to bleed.

These are the principal circumstances that I have to notice respecting the history of varicose veins of the legs; and now I shall offer to you some observations respecting the treatment to be employed.

Why is it that the superficial veins enlarge, and not the others? Because, as I have already explained, the deep-seated veins have pressure made upon them on every side, but the superficial veins have not. The first thing for you to consider in the treatment is, whether you cannot put the superficial veins, which are dilated and varicose, under the same circumstances with the deep-seated veins which are uniformly supported. This may be accomplished by applying a bandage to the leg. And what kind of bandage? In many cases you may apply merely a partial bandage of adhesive plaster, which will answer the purpose perfectly, giving the patient scarcely any inconvenience. Where the disease is of limited extent—where, for instance, there are only two or three varicose clusters, of small size—you need not trouble the patient with a complete bandage for the whole leg. Have some stripes of adhesive plaster, three or four inches long, according to circumstances, and one inch or an inch and a half wide. First of all, let the patient stand erect, that you may ascertain exactly where the varicose clusters are situated. Having marked the place, let the patient recline and let the foot be raised, so that the blood may run down, and the varix become completely empty. Observe, that the heel ought to be the highest part of the whole person. Then you put on one of the pieces of adhesive plaster across the varicose vessels, and afterwards apply the others in the same manner, drawing up the skin under them, and taking care that the plaster is not thrown into rucks or folds. These plasters being applied when the veins are empty, and being strained on the skin beneath, when the patient stands, the veins are prevented swelling. In a great many cases you will find that this is sufficient to give all the support required, and perhaps this is all that the patient needs for the whole of his life. A lady consulted me, some years ago, with two or three varicose clusters on the inner ankle and on the back of the leg, but with no vari-

cose veins of any consequence elsewhere. I put on some pieces of plaster in the manner which I have described. I mention this case only for this reason—that I recommended the treatment seven or eight years ago, and that lately, when she came to London to consult me on another disease, she told me that she had worn the plaster up to this time, and that it had given her complete relief: she had never had occasion for any thing else. But when the veins of the legs are extensively varicose, this compression will not be sufficient, and then you must apply a bandage for the whole leg. There are different kinds of bandages, and sometimes one sort will answer best, and sometimes another. You may use a common roller of coarse unbleached calico, such as we use in the hospital. In some persons you will find a flannel roller more convenient; at any rate, the patient can apply it better for himself. In private practice I frequently recommend a bandage which is made of stocking web. This is a very nice bandage, and very convenient, as the patient can more easily apply it for himself: there is not the dexterity necessary which is required in the application of a common roller. But it will not do for hospital practice, because the bandage is good for nothing after it has been three or four times washed, and because it is too expensive for the lower class of persons.

I must here make a few observations respecting the application of a roller. A bandage should be applied in the morning before a patient goes about, but it need not be worn in the night when the patient lies down. The bandage should begin at the toe, and go up the leg; and you should take care so to apply it as to support the heel. It should be so adapted to the limb as to make uniform and moderate pressure. The pressure should be as nearly as possible equal throughout. Especially it ought not to be tighter above than it is below, for in that case the veins below, where the pressure is least, must necessarily swell. A tight garter increases varicose veins; and the patient ought to be told not to wear a garter at all, but to loop up his stocking. A bandage which is tighter above than below corresponds to a tight garter. But some persons cannot well apply a bandage for themselves, and for them you may prescribe a laced stocking, which is in many respects very convenient. Patients who are awkward in applying a bandage may manage the laced stocking very well for themselves. Laced stockings are made of various materials. The Chinese manufacture a calico called *nanquin*, which is a very good material for the purpose. Some laced stockings are now made partly of Indian rubber cloth, so that they are elastic. An ingenious artist in Jermyn street makes a laced stocking of spiral wire, like the springs of braces, but of very fine texture, included within folds of leather or something else. Whether you use spiral wire, or Indian rubber, it is not necessary that the whole of the stocking should be made of the elastic substance; you only want elasticity in a part of the circumference. In most cases I find the Indian rubber cloth to be the best of these elastic materials. Patients complain of the elastic wire cloth being very hot, and besides, if any thing, it makes rather too much pressure. Indian rubber cloth, however, is not very well adapted for

hot weather, as the cloth gives way so, that there is not a sufficient support, and hence it does not answer so well as common calico or nanquin in hot climates. However, you will find that each kind of laced stocking has its advantages in particular cases.

So much as to the general treatment of varicose veins; but now we are to consider their treatment under peculiar circumstances. Let us suppose, then, that you are called to a patient in whom there is a varicose cluster of veins in a state of inflammation. There is a great deal of tenderness in the part, and perhaps some fever. The first thing you have to do is to keep the patient in bed, in the horizontal posture, so as to keep the veins emptied of their blood. Then, if there be much inflammation, and the patient suffers a good deal of pain, you may apply leeches; but do not apply them immediately over the veins: they should be applied higher up on the leg, on the sound skin. The biting of a leech over an inflamed vein will give the patient a good deal of pain, and the bite will be difficult to heal. If you apply it on the sound skin in the thigh, or the upper part of the leg, you will relieve the varicose veins just as much as if you had applied it upon them, without giving the patient pain at the time or any trouble afterwards. You may then apply to the inflamed varix a compress wet with spirituous lotion, unless the pain be very great, and then you may use poultices and fomentations instead.

When inflamed varicose veins are distended with coagulum, it used to be the practice formerly to slit open the vein, and turn out the coagulum, but it is not the practice that I should recommend. It is, in fact, very bad practice, and in order to impress this observation the more upon your minds, I will mention a particular case, which I found this morning in looking over one of my old case books. It occurred upwards of twenty years ago. A patient was admitted into the hospital with two or three large clusters of varicose veins. They were all in a state of inflammation; the upper one was the most inflamed. The patient said that she had had the disease for some years, but that about a week before her admission she had stood for a long time upon a cold stone floor, on a cold damp day. She went to bed, and had a shivering, which was followed by fever, and then this attack of inflammation of the veins took place. I could feel that the blood had become coagulated. I opened the upper varix and let out the coagulum; but the varices below were treated with cold lotion, or in some other simple way. Under this treatment the inflammation very soon subsided in the varicose clusters below, the absorption of coagulated blood began to take place, and the clusters were cured. But observe what happened in the cluster that I had punctured. The puncture became an ulcer, which would not heal, but became very troublesome. At the end of six weeks when the other clusters were well, there was a nasty sore here. I was obliged to make a slough with caustic potash, which I suppose destroyed the remains of the vein which had been opened. The slough came away, the sore assumed a healthy character, and got well, but certainly the patient would have been well some six or eight weeks sooner, if I

had pursued the same practice with the upper varicose cluster which I adopted with the lower ones.

The treatment of these clusters of inflamed varicose veins should be just this:—lay the patient in bed; put a cold lotion on the part, or fomentation and poultices if you find these to be more comfortable to the patient; administer purgatives according to circumstances; and if there be much inflammation, but not otherwise, apply leeches to the sound parts above. The result will be, that the veins of the inflamed varix will become obliterated, and the varix will be cured.

LECTURE XIII.

ON VARICOSE VEINS AND ULCERS OF THE LEGS. (*Continued.*)

I HAD not an opportunity of completing, in the last lecture, my observations on varicose veins of the leg. I explained to you the pathology, the symptoms, and the consequences of the disease; and I began to speak of the treatment which it requires: I shall continue the latter subject in the present lecture.

In those cases in which, from long neglect of varicose veins, the skin of the leg becomes red and irritable, you will be able to render the patient no service so long as he is going about, standing and walking as usual. The first thing to be done is, to confine him to his bed, or at all events to a sofa; but the safest method is to confine him to his bed, and the horizontal posture, so that the blood may not have to rise up in the leg against its own gravity. In many cases nothing more is necessary than this; but, in some instances, this will afford but very slow relief, and in all cases you may hasten the patient's recovery by adopting other methods in addition: I have frequently, in these cases, bled the patient in the vena saphena major, in the lower part of the thigh, near the inner condyle; and it is astonishing what relief that gives. It is not worth while to adopt this practice in all cases, but where you find the patient suffering more than usual from the inflamed state of the skin, you may very properly have recourse to it.

Bleeding in the vena saphena major is performed very easily in persons who are not very fat; place the bandage round the lower part of the thigh, let the patient put his leg into a pail of warm water, and what with the warm water below and the bandage above, the vena saphena swells; you then open it with a lancet, and take away any quantity of blood you please. But, in a very fat person, bleeding from the vena saphena is not very easy to be accomplished, and as a substitute for it you may apply leeches to the inside of the thigh, or you may apply them in this situation in other cases where you do not think that actual bleeding in the vena saphena is required. And here I must call to your recollection what I said respecting the ap-