

## LECTURE IX.

ON MORTIFICATION. (*Continued.*)

## MORTIFICATION OF THE INTEGUMENTS OF THE LEG.

THERE are cases of mortification of the integuments of the legs, which appear to correspond very nearly to those of mortification of the toes, of which I treated in the last lecture. There is, however, sufficient difference between these two classes of cases to justify me in noticing them separately. Mortification of the integuments of the legs is of more frequent occurrence than mortification of the toes. We meet with it earlier in life, and in those who have less distinct marks of old age upon them; at the same time that the chances of recovery are greater in the former than they are in the latter. Undoubtedly mortification of the leg (as well as mortification of the toes) frequently has its origin in organic disease of the vascular system. But then I find reason to believe that it takes place in many cases, independently of organic disease of any kind—as in persons who are merely lowered and exhausted by previous illness; whose heart does not act with sufficient power, because it partakes of the general debility. Such persons may and do recover perfectly, living for years afterwards, without any symptoms of organic disease showing themselves.

Let me not, however, run the risk of misleading you; as the more fortunate cases, of which I have just spoken, do not include the whole of those which you will meet with in practice. So when you are first called to a case of this kind, you must always look at it, in the first instance, with anxiety and suspicion.

A person comes to you with a vesication on the leg, and when the cuticle has given way, you find a little slough at the bottom. The slough may go on spreading, probably very slowly, perhaps with little or no suffering. By and by there is an attack of severe pain, with surrounding inflammation, and perhaps shivering. In a day or two after this, the mortification is found to be making greater progress. In bad cases the mortification spreads with frightful rapidity, with much constitutional disturbance. The pulse becomes irregular, feeble, intermittent; the tongue is dry and brown; the patient wanders in his mind, then becomes comatose, sinks, and dies. Such is the history of one of the worst cases of mortification of the skin of the leg; corresponding, you will perceive, a good deal, in the symptoms, to those of senile mortification of the toes. There is a chronic attack of the disease at first, with little constitutional disturbance; the mortification spreading slowly; the disease afterwards assuming an acute form, and in a short time terminating life. But in other more fortunate cases the mortification goes on spreading slowly, with little or

no suffering, with no great constitutional disturbance, and at last, under proper treatment stops; the slough coming away, the sore granulating and healing. As I told you before, a patient who has suffered in this manner may live for many years afterwards, and have no return of the disease.

Sometimes the disease appears in a somewhat different shape. There is a simple varicose or other ulcer of the leg: by and by the surface of the ulcer assumes a dark colour, the granulations die, the mortification extends to the skin at the margin, and spreads slowly or rapidly, according to circumstances. Perhaps the slough may come away, the sore begin to heal, and actually heal to a certain point; then mortification may begin again, and go on to a certain extent, and then stop a second time. In this way I have known the disease to linger on for a year or more, sometimes terminating well at last, and at other times terminating unfavourably.

The treatment of these cases is very similar to that of the cases which I noticed in the last lecture, and, therefore, I need not occupy your time long with this part of the subject. The patient ought to be kept in the recumbent posture in the uniform warmth of bed. This I conceive to be a most essential part of the treatment, though it may sometimes require a considerable effort of your persuasive powers to carry it into execution. Not feeling himself ill, and suffering little or no pain, he may wish to lie on a sofa, or even to walk about. I have known patients thus afflicted walk to my house to see me, and have had great difficulty in persuading them that they must go home and go to bed.

With respect to the local treatment: in the greater number of cases, I find none to answer so well as this—applying some simple dressing (calamine cerate, for example), to protect the part, and then wrap up the limb in carded wool, in the way which I explained in the last lecture. This should be left undisturbed, in the first instance, for several days; the period varying afterwards according to the quantity of discharge. There are few cases to which this treatment is not at first applicable: I allude to those in which there is a good deal of surrounding inflammation, and great heat of the limb. Under these circumstances the sufferings of the patient may be aggravated by keeping the limb wrapped up in wool. The part requires to be kept cool, and you may apply a piece of lint dipped in water, and kept constantly moist, or a simple poultice. Water dressing, however, is the simplest application, causing the least trouble to the patient, and is, at any rate, as effectual as the poultice. But when the heat and pain have in some degree subsided, then you may have recourse to the other treatment. When the slough has separated, a broad ulcer is left, seldom very deep, and often quite superficial, and for the treatment of this no specific rule can be laid down. Usually the sore does not require any very stimulating application. I have found, on the whole, the Barbadoes naphtha (if it be genuine) a better remedy for the ulcers, left after the slough has separated, than any thing else. It is a mild and soothing application, yet it has a great tendency to clean what we commonly call a foul ulcerated surface. It is applied thus:—

You dip lint in it, lay it upon the surface of the sore, place a piece of oiled silk over it, and then apply a bandage not very tight. This may be changed once, and, under certain circumstances, twice daily. If the limb be cold, and the circulation in it feeble, you may continue to apply the carded wool, or a thick fleecy hosiery stocking after the slough has separated, and in general it will be prudent for the patient to wear a warm stocking ever afterwards.

With regard to the constitutional treatment, your first attention must be directed to the state of the digestive organs. Generally in these cases the patient requires an occasional mercurial purgative, once in four or five days, or once in a week, according to circumstances. I have given bark and other tonics, ammonia, and so on; but I cannot say, that my experience leads me to place much faith in any of these remedies. I may refer you here to the observations on this subject, which I offered, when speaking of mortification of the toes. It is most essential that the patient's stomach should be able to digest food, and you should take care not to overload it with medicine if it interferes with his food; for food is much better than medicine. Wine is generally required, except just at the period when there is much inflammation and pain in the leg: but the quantity of wine administered must depend on circumstances. Here also I may recall to your minds what I said on the use of wine in the last lecture. Opium, in these cases, is, according to my experience, very serviceable, just as it is in cases of mortification of the toes, but subject to the same restrictions as in the last-mentioned cases. If it makes the tongue dry, if it interferes with digestion, it does harm; but if it does not make the tongue dry, nor interfere with digestion, it does great good. You may exhibit it at first in moderate doses, increasing them according to circumstances; but always bear in mind, that when you have occasion to exhibit opium, mercurial purgatives will be especially required, as opium always has a tendency to stop the secretion of the liver, and nothing counteracts this ill effect of it to the same extent as mercury. When the sore has become quite clean and healthy, you may apply diachylon or soap plaster in stripes, in a circular manner round the limb, with a bandage from the toes to the knee, treating it as you would treat other sores of the leg.

#### PECULIAR SPECIES OF DRY GANGRENE OF THE SKIN.

The wax model that you see on the table, exhibits the appearances of a very peculiar sort of mortification, which is not well described, so far as I know, by surgical writers. If I recollect right, however, there is a brief notice of a case of this kind in M. Quesnay's book on gangrene—a very excellent work, published by an eminent French surgeon, about the middle of the last century.

I have extracted from one of my old note-books, the history of the first case of the kind that I met with; and I shall read it as it stands here, believing that I can adopt no better method than this for conveying to you a knowledge of this disease.

“Susan Orange, a girl fourteen years of age, was an out-patient of the hospital, under my care, so long ago as October, 1812, on account of some kind of eruption of the skin of the left arm. She appeared full grown, but had never menstruated. She had a pale, sallow complexion, with a very feeble pulse; altogether exhibiting marks of a very languid state of the system. About the end of February, 1813, the eruptions became very much relieved. (Now of this early part of her case I have only some short notes; and it is not even stated what was the exact character of the eruption. Whatever they were they did not exist to any very great extent.) Almost immediately after the eruptions in the arm had disappeared, in the beginning of March, 1813, she was seized with pain, confined to a single spot on the left forearm. The pain lasted three hours, and then subsided; but that part of the skin of the forearm, to which the pain had been referred, and which was of about the extent of a shilling, was left with a white and shriveled appearance; it was, in fact, dead, and in a short time the dried skin became hard and horny, of a straw colour, somewhat resembling a piece of parchment in appearance. As it dried, the small vessels in the skin became apparent, injected with red blood in a coagulated state. In a few days the slough separated, leaving a superficial sore, which granulated and healed under some very simple treatment. But before this sore was well closed, the patient had a second attack of pain, referred to the margin of the cicatrix, and this was followed by a second slough very similar in appearance to the first. There was, however, this peculiarity in it—that while it formed a complete zone or circle round the cicatrix, it was at some little distance from it, there being a narrow band of sound skin left between them. This second slough gradually separated, and the sore which it left healed; but before this process was completed there was a third attack of pain at the margin of the second cicatrix. A third slough formed, nearly similar to the last—that is, presenting the appearance of a zone, with an intermediate zone of sound skin between it and the last formed cicatrix. The sore left by the third slough healed like all the others. On the 9th of May, there was another attack of pain, referred to another spot on the inside of the left forearm. It lasted a day and a night, was more severe than on the former occasions, and was followed by the destruction of a piece of the skin, two inches in diameter. The slough presented the same appearances as the former ones, and came away at the end of a fortnight, being of the thickness of a crown piece. It left a sore, which healed, but slowly. About the middle of May, she began to experience a slight pain upon one instep, which continued, and on the fourth of June this pain became very intense, entirely preventing sleep on the following night. On the morning of the 5th of June the pain had subsided, but a slough was formed as large as the palm of a man's hand, covering the greater part of the instep, which presented the same appearances, and ran the same course as those on the forearm, except that the separation of the slough, and the healing of the sore, were more tedious than had been the case in the upper extremity. After this, no fresh sloughs formed for a considerable time, though

the patient continued in the same feeble state of health. She left the hospital, and I lost sight of her until October, in the same year, when she was admitted into the physicians' ward, under Dr. Warren. She remained there for a considerable time in very weak health, with occasional formations of the same white cutaneous sloughs in different parts of the body. At last she quitted the hospital, and I lost sight of her altogether. But Mr. Hammerton, of Piccadilly, who was apothecary of the hospital at the time, informed me that she went to stay with some friends, who lived near Windsor. He has since heard that she died there, and that there was no post-mortem examination.

The model that you see on the table, was taken from a patient of Mr. Keate's, and it very accurately represents the peculiar appearance which the sloughs assumed, in the case of which I have given you the history. You see the disease in its various stages: some of the sloughs are recently formed, and in other places, they have separated, and there is a clean granulating ulcer. The only circumstance that I remember different in the case of Susan Orange, is, that there the vessels injected with red blood in a coagulated state, and ramifying through the white slough, were much more distinct than they are in this model. Mr. Keate's patient became a great deal better, and it is supposed that she ultimately recovered under the continued use of tonics. Tonics, and especially steel, were administered to the first patient, whose case I have mentioned, without any advantage.

I had a patient in the hospital who laboured under a disease very similar. This also was a woman, with irregular menstruation, who was liable to attacks of pain in the leg, which ended in the formation of thin sloughs. The only difference between this and the other cases was, that each slough was preceded by vesication. The slough itself had the appearance which I have just described. This patient improved very much under the long-continued use of small doses of sulphate of copper; but at last she left the hospital, and I lost sight of her; and, indeed, you know that it must be very difficult to get the whole history of one of these cases, or of other cases, in which the disease is protracted for a great length of time.

#### MORTIFICATION FROM THE ERGOT OF RYE.

Cases of mortification of the limbs are described as arising from the use of certain deleterious articles of food, especially from the eating of bread made with blighted rye, or rye containing ergot. It is said that people who eat bread of this unwholesome kind are liable to mortification of the extremities; and that whole families become affected with mortification under these circumstances. I have never seen any of these cases myself, and I cannot obtain from books any satisfactory information as to their pathology. I am not aware that there is any account extant of the appearances which they exhibit on dissection. I think it right to notice the subject, but as I can tell you nothing more of it than you can find in books, I shall not dwell upon it.

#### MORTIFICATION OF THE EXTREMITIES FROM UNKNOWN CAUSES.

In one of the earlier volumes of the Annual Register, you will find a very curious account of a whole family becoming affected with mortification of the extremities, though it is not stated that they had been living on any deleterious articles of food. The account is given by a physician in Suffolk, of a family in that county, and nothing is stated which throws light upon the cause of the mysterious disease. The father, mother, and five children, if I remember rightly, were all affected. The lower extremities mortified in all, except the father, in whom the fingers only mortified. Mr. Solly, in the two last volumes of the Medico-Chirurgical Transactions, has given the history of a child, in whom one extremity after another, without any evident reason, mortified. The disease went on for twelve months before it terminated fatally. The limbs had all mortified, and the sloughs had separated, a sort of natural amputation having taken place. The child died, and the body was examined after death, but the examination threw little light on the pathology; and the cause of the disease is quite mysterious.

In practice, you will every now and then find other forms of mortification, which it is impossible to notice in lectures.

#### ANTHRAX OR CARBUNCLE.

There is, however, one other form of this disease which I think deserves your especial consideration, and with an account of which I shall finish this division of my course of lectures. The disease to which I allude is what is commonly called anthrax or carbuncle. There is something more to be said on this subject than upon ordinary cases of inflammation terminating in gangrene, and it is for this reason that, although I have referred to it already in one of my former lectures, I shall again call your attention to it.

Persons who become affected with carbuncle, are most frequently those belonging to the affluent classes of society; and those especially who have eaten and drunk a good deal, and lived freely, and who have apparently enjoyed robust health, are liable to this disease, after they have passed the middle period of life. Dr. Prout has observed a very peculiar circumstance connected with this carbuncle, namely, that it frequently exists in combination with that form of diabetes in which there is sugar in the urine. The patient is generally in a state of ill health before the carbuncle appears; often he feels ill, though he hardly knows how to explain in what respect he is so, and then the carbuncle shows itself.

Carbuncle, in its commencement, does not always present itself just in the same manner. Sometimes there is a red cutaneous tubercle, or a pimple, which becomes exceedingly painful, resembling a boil, but which, instead of soon terminating like a boil, goes on increasing in size, becoming more and more painful with much induration at

the base. Supposing the disease to be left to run its course, it will proceed thus:—the induration goes on increasing in degree as well as in extent, the skin becoming hard and brawny, and of a dark crimson colour, especially at the centre of the induration. I have known the induration at last to occupy a space not less in size than that of a soup-plate. The patient all this time suffers exceedingly from a burning pain, with a sense of weight, constriction, and stiffness. His health is otherwise deranged; his pulse is frequent; his tongue furred; sometimes he is sick, and perhaps he nauseates his food. In cases that terminate ill, you will find, after a certain time, when the induration is very extensive, the pulse becoming weak, irregular, and intermittent; there are great prostration of strength, hurried manner, delirium, coma, and this last symptom precedes death. But the disease may terminate more favourably, even without the aid of surgery. The central part of the hardness becomes softer; you can feel an imperfect fluctuation under the fingers; the skin ulcerates in one small point, then in another, till you find it perforated in a great number of points, and a white slough is seen through the perforations. By and by the intermediate portions of the skin between these points perish, and a slough of the skin comes away. There is a discharge of a small quantity of thin matter, and a large slough of the cellular membrane is seen underneath. Some time afterwards the slough comes away, consisting partly of dead cellular membrane, partly of lymph, and partly of pus, which is infiltrated into it. Then the exposed surface granulates and heals.

But in other cases the disease, in its origin, is somewhat different, showing itself not in the skin, but in the subcutaneous texture. There is a hard lump in the cellular membrane under the skin, which is excessively painful; this goes on increasing till it adheres to the skin, then the skin becomes discoloured, and the disease runs the same course as in other cases, in which it begun with a red pimple.

The disease occurs in men more frequently than in women, perhaps because they live on the whole more intemperately. It occurs more frequently on the back, between the shoulders, than anywhere else; sometimes on the back of the neck, and sometimes on the occiput. I have observed that when it is on the back of the neck, and especially when it is on the occiput, the disease is very dangerous; but by far the greater number of patients recover in whom the disease is situated elsewhere, and in whom a proper treatment is adopted. The disease is not very common on other parts of the body; I have, however, known it to occur on the nates and thighs, and once upon the face. I was sent for to see a gentleman who I was told was very ill, and when I visited him, I could not at first conceive what complaint he had. I never saw such a man's face before. It took me some time to understand what it was. There was a carbuncle on the nose, and you may conceive, better than I can describe, the strange appearance of the human face under such circumstances.

This disease, I have said, occurs in those who have lived very freely, and, like most diseases to which such persons are liable, requires to be treated not by lowering the patient, but by giving him

nourishment and wine—nourishment, as far as his stomach can digest it; wine, as far as he can take it without being heated, and rendered feverish and irritable. When there is excessive pain, you must administer opium. It is better, generally, when the patient is suffering a great deal of pain, to give a good dose of opium at night; but, if possible, to avoid giving it in the day time. There is always a great objection to the exhibition of opium, as it will interfere with digestion and confine the bowels; but there is a still greater objection to the want of sleep, and you must give it as the least of two evils. If you administer medicines besides, bark, quinine, and other tonics, may be given. But I do not think that in general, during the active state of the disease at least, you will find much good from any thing but nourishment, wine and opium, with an occasional purgative. The purging, however, should not be carried to an excess. Moderate purgatives, administered at intervals, may be useful, and indeed necessary; but a repetition of drastic purgatives will be injurious.

But the principal remedy in these cases belongs to the local treatment. I described to you the disease, supposing it to be left to run its course, and it is always desirable to know what a disease will be if you let it alone; but I do not advise you to let this alone, nevertheless. Until there is an opening in the skin, until the pus begins to escape, and the slough is exposed, the brawny hardness of the skin continues to spread. The slough and matter require an exit, and you must give them an exit by making a free crucial incision through the carbuncle. Make, not a small partial incision in the middle, but one which extends completely through the whole brawny tumour, from one side to the other, and then another at right angles to the first, also completely through the tumour and to the bottom of it. If this be done effectually, and not too early, you will generally find that the progress of the induration is stopped. If it should, however, continue to extend, you must follow it with an incision on another day. Where this incision is made at the proper period, it is generally effectual; and with good medical treatment the patient recovers. In making the incision, you will find that you divide a thick slough of the cellular membrane, and it has a peculiar appearance, as I have already explained, in consequence of its being infiltrated with lymph and pus, so that when it comes away, it is more than the mere destruction of the living parts will account for. After you have made the incisions, you may apply a poultice to the part, and change it three or four times a day. It is not uncommon to apply some digestive ointment, such as used to be called *basilicon*, or the *unguentum elemi compositum*; it being supposed that this favours the separation of the slough. I do not know whether such applications have this effect or not; perhaps they may: at any rate they can do no harm. When the sloughs are separated, the patient's system will be relieved; but he will require support both from food and medicine. If they were not useful before, he will now derive benefit from tonics, especially from bark. Although I much doubt the efficacy of tonic medicines in the early stage of the disease, I have no doubt they are very

efficient and very useful at this period, when the sloughs have separated.

M. Dupuytren says, that there are elongations of the subcutaneous cellular membrane which extend into the skin, and that when one of these becomes inflamed, it forms a boil, but if several be inflamed, they form a carbuncle. It may be so: the disease may begin in these elongations of the cellular membrane of which he speaks, as far as I know; I cannot contradict this opinion. But there is something more than this: I do not believe a carbuncle to be a mere local affection; it is a constitutional disease, and is always preceded by something wrong in the general health. It seems to me as if there were something like a poison in the circulation, which is thrown out of it into the cellular membrane in cases of carbuncle; so that we might be justified in classing this disease with small-pox and other exanthemata. In a case of small-pox, there is first an attack of fever, which is relieved as soon as the pustules appear; and as these contain the variolous poison, there is little reason to doubt that it is the expulsion of the poison from the circulation that relieves the fever. The case which I am about to relate seems to indicate that something like this happens in cases of carbuncle. A gentleman, and old acquaintance of mine, formerly a surgeon of eminence in a provincial town, but who has retired from his profession, about sixty-three or sixty-four years of age, called upon me some years ago, at my own house, in the morning, and said there was some complaint in his back, and that he suffered a great deal of pain. On examination I found that there was a carbuncle. I sent him home, and told him to poultice it. Two or three days afterwards, it being, as I supposed, in a proper state for the operation, I made a crucial incision through it. He was very much relieved, and was going on very well, indeed, when there appeared another carbuncle, but on a smaller scale than the first. It was not a pimple in the skin, but the subcutaneous form of the disease which I have already mentioned. I told him what I believed to be the case. He said that it did not give him a great deal of pain, and I therefore thought it would be better to let it advance a little further before I opened it. It went on increasing, the skin over it became purple, and the whole assuming the ordinary form of carbuncle. In the mean time he continued well, and appeared to have hardly any thing the matter with him except the local complaint. But two or three days afterwards on calling upon him, I found him in bed. On inquiring the cause, he said in a faint voice, "O! my dear friend, I am dying." I expressed a hope that that was not the case. "O! yes," said he, "I am dying." I found that indeed his words were true. His skin was cold and clammy, and the pulse scarcely perceptible. I asked him how long he had been in that state? His answer was, "During the night all the pain subsided, and at the same time I became ill. I believe that the carbuncle itself has disappeared." And so it was: when I examined the back, I could find scarcely a vestige of it. He died in less than twenty-four hours after this change had taken place.

Another circumstance is worthy of notice, as confirming the view

which I have taken of the pathology of this disease. It frequently happens, when a patient has recovered from a large carbuncle, that other smaller ones, like boils, appear on different parts of his body; and a succession of these, gradually becoming smaller and smaller, may continue for many months, or even for one or two years.

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## LECTURE X.

### INFLAMMATION OF THE VEINS.

INFLAMMATION of the veins is a very common disease, and was not much noticed till within the last forty or fifty years; but of late it has been the subject of very general investigation. One description will not apply to all cases, as it occurs under various circumstances, arises from various causes, is attended by different symptoms, leads to different results, requires, of course, different treatment, and has the additional characteristic of sometimes being not at all dangerous, and at other times extremely so. Let us, then, take the disease in its simplest form, for all diseases should be thus studied. I address this observation more particularly to those gentlemen who are just commencing their studies; I recommend them to study the simpler forms of disease first, namely: those cases which more advanced students look upon as of trifling importance, for, by thoroughly understanding these, you will be enabled more readily to comprehend those more difficult cases which you will meet with afterwards. Suppose, then, a man has varicose veins of the leg; he takes too much exercise; you therefore rest him; you also purge him, and bathe the parts with cold lotions. The pain probably soon ceases, and very slight constitutional disturbance results. Now, if from any cause this man should die, and an opportunity occurs for examining the body, you will find the veins which, during life, felt hard and like cords beneath the finger, filled with lymph, so as entirely to have obliterated their cavities. This form of the disease is not dangerous; it seldom leads to any bad result. Then there are cases where inflammation of a larger vein takes place, independently of wounds or mechanical injury, and these also are not generally dangerous. Let us suppose an ordinary case. A man takes too much exercise, or is exposed to cold; he gets a sense of weight and pain in the groin, extending down throughout the whole of the limb; there is tenderness along the course of the veins during the day; no constitutional disturbance; pulse a little quickened, but the symptoms not urgent; then, after a time, the calf of the leg swells, soon the whole of the leg swells—it is an elastic swelling, and is sometimes sufficient to make the leg double its natural size. These symptoms continue for a length of time, and then, either with or without treatment, begin to subside; and first, perhaps, the pain ceases, the swelling remaining; then, perhaps, the size diminishes,