

An essay on the application of the lunar caustic, in the cure of certain wounds and ulcers / by John Higginbottom.

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Royal College of Physicians of Edinburgh

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AN
ESSAY
ON THE
APPLICATION
OF THE
THE LUNAR CAUSTIC,
ON THE
LUNAR CAUSTIC.

JOHN HIGGINBOTTOM,

Surgeon

Member of the Royal College of Surgeons

of London.

LONDON:

Printed by

JOHN HIGGINBOTTOM, 10, BROADWAY, AND 10, ST. MARK'S LANE.

1841.

1841.

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APPLICATION

THE LUNAR CAUSTIC

LUNAR CAUSTIC

JOHN RICHMOND

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IN THE
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WOUNDS AND ULCERS.

BY
JOHN HIGGINBOTTOM,
NOTTINGHAM,
MEMBER OF THE ROYAL COLLEGE OF SURGEONS
OF LONDON.

L O N D O N:
PRINTED FOR
LONGMAN, REES, ORME, BROWN, AND GREEN,
PATER-NOSTER ROW.

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M. D. EDIC.

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1831.

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TO

MY BROTHER-IN-LAW,

MARSHALL HALL, M.D. F.R.S.E.

&c. &c.

THIS LITTLE WORK IS INSCRIBED

WITH

GREAT AFFECTION.

Nottingham, Jan. 6, 1826.

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PREFACE.

THE following pages are presented to the medical public with very humble pretensions. It is chiefly with the minor accidents or diseases that they have to do; but I shall not consider that I have laboured in vain, if I am enabled to mitigate even these little evils of human life.

In these prefatory observations, however, I would suggest the question whether the caustic may not be employed with benefit even in some of the se-

verer diseases to which the human frame is liable. Indeed I consider the investigation as only just begun, and many other uses of the lunar caustic, besides those detailed in the following pages, have suggested themselves to me.

May not the caustic, for instance, be of greater efficacy, because of greater power and of quicker operation, than ordinary blisters, in some internal diseases?

It is repeatedly stated hereafter, that the application of the lunar caustic is a means, in certain circumstances, of subduing external inflammation. Might it not, on this principle, be of service in the treatment of some of the internal phlegmasiæ?

It may be observed, that the lunar caustic may be regarded, almost without further trial, as an effectual preventive of those cases of irritative fever which arise from local injuries, and probably of the effects of poisoned wounds in general. I would not, however, in the latter cases, fail to render “sure doubly sure” by free excision.

Might not an adherent eschar be easily formed in those cases of compound fracture in which the external wound is of moderate size, so as effectually to exclude the external air and prevent cutaneous inflammation, and in more respects than one, to reduce the case to the state of a simple fracture? This object, if attained, would be important indeed, and I hope the suggestion will

be submitted to the most assiduous and cautious trial.

I can have no doubt that the use of the lunar caustic admits of being still further extended; and, as I intend to pursue the inquiry, I hope at some future period to publish something more worthy of the attention of the medical public. In the mean time, the plans hereafter suggested must not be adopted without that degree of care, attention, and perseverance, which are obviously necessary to render them successful.

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CHAPTER I.

ON HEALING BY ESCHAR.

HAVING been led, by several circumstances, to try the effects of the Lunar Caustic in the treatment of Wounds and Ulcers, and having great reason, from these trials, to think that this remedy may be used with much advantage far more extensively than has hitherto been done, I lay the results of my experience before my medical brethren.

A very natural mode of healing certain wounds and ulcers, is by scabbing; but this mode of treatment is attended by many disadvantages, as will be pointed out shortly; yet it may be supposed to have suggested to me some of those trials of the treatment by eschar, which I am about to detail.

I. ON THE ADHERENT ESCHAR.

It appears scarcely necessary to describe the immediate and well known effects of the application of the lunar caustic to the surface of a wound or ulcer. It may, however, be shortly observed that the contact of the caustic induces, at first, a white film or eschar which, when exposed to the air, assumes in a few hours a darker colour, and at a later period, becomes black; as the eschar undergoes these changes of colour it gradually becomes harder and resembles a bit of sticking plaster; in the course of a few days, according to

the size and state of the wound, the eschar becomes corrugated and begins to separate at its edges, and at length peels off altogether, leaving the surface of the sore underneath, in a healed state.

In the formation of this eschar several things require particular attention. The application of the caustic should be made over the whole surface of the sore; and indeed no part requires so much attention as the edges; to make a firmer eschar the caustic should even be applied beyond the edge of the wound, upon the surrounding skin, for the eschar in drying is apt to contract a little, and in this manner may leave a

space between its edges and that of the adjacent healthy skin.

At the same time, much attention must be paid to the degree in which the caustic is applied. In cases of recent wounds unattended by inflammation, it may be applied freely; but when inflammation has come on, too severe an application of the caustic induces vesication of the surrounding skin, and the edges of the eschar may in this manner also be loosened and removed. If every part is touched, a slight application of the caustic is generally sufficient.

The importance of avoiding all causes which might detach the edges of the eschar will be apprehended by the following interesting observation, which I have been enabled to deduce from very extensive trials of the caustic; it is, that, in every instance in which the eschar remains adherent from the first application, the wound or ulcer over which it is formed, invariably heals.

Not only the cause just mentioned, but every other by which the eschar might be disturbed, must, therefore, be carefully avoided; and especially, as the eschar begins to separate from the

healed edges of the sore, it should be carefully removed by a pair of scissors.

To the surface of the wound the eschar supplies a complete protection and defence, and allows the healing process to go on underneath uninterruptedly and undisturbed. It renders all applications, such as plasters, totally unnecessary, as well as the repeated dressings to which recourse is usually had in such cases; and it at once removes the soreness necessarily attendant on an ulcerated surface being exposed to the open air. In many cases too, in which the patients are usually rendered incapable of following their wonted avo-

cations, this mode of treatment saves them from an inconvenience, which is, to some, of no trifling nature.

It has already been stated how important it is that the eschar should be preserved adherent. To secure this still more effectually, I have found it of great utility to protect it by a portion of gold-beater's skin. The skin surrounding the wound is simply moistened with a drop of water, and the gold-beater's skin is then to be applied over it and over the eschar, to which it soon adheres firmly, but from which it may be removed at any time, by again moistening it for a moment with water ; the

same bit of gold-beater's skin admits of being again and again reapplied in the same manner.

The other circumstances which render the eschar unadherent will be mentioned hereafter. In the mean time the fact stated p. 6, will sufficiently establish the propriety of treating distinctly of the adherent eschar.

I now proceed to mention some other effects of the application of the caustic. The first is that, in cases in which there would be much and long continued irritability and pain, as in superficial wounds along the shin, all this

suffering, and its consequences in disabling the patient, are completely avoided. A blush of inflammation forms around the eschar, but this gradually subsides without any disagreeable consequences, and the inflammation which would otherwise have been set up is entirely prevented by the due formation of the eschar.

If inflammation be previously established, it is increased, at first, by the application of the caustic. But if this inflammation be not severe, and if the eschar remain adherent, all inflammation, both that induced by the application of the caustic, and that existing

previously, entirely subsides. When the previous inflammation round the ulcer is considerable, however, the application of the caustic would induce vesication, and it should in such a case of course be avoided, and another mode of treatment to be described hereafter must be adopted.

I would introduce in this place some observations on the comparative effects of healing by eschar and by scabbing. On the subject of scabbing I must refer my reader to the well known work of Mr. John Hunter. The advantage of healing by eschar over that by scabbing is quite decided. By comparative trials,

I have found that whilst the scab is irritable and painful, and surrounded by a ring of inflammation, the adherent eschar is totally free from pain and inflammation; and that whilst the scab remains attended by inflammation and unhealed, the eschar is gradually separating, leaving the surface underneath completely healed. To these observations I may add that the success of the plan of healing by eschar is infinitely more certain as well as more speedy than that by scabbing.

I shall, in conclusion, briefly recapitulate the advantages of this mode of treatment. In the first place, it will be

found far more efficacious and speedy than any other; secondly, it has the great advantage of saving the patient much suffering and inconvenience; and thirdly, it renders the repeated application of dressings and ointments quite unnecessary. Its utility is extremely great, therefore, where the time of the poor, the expense of an establishment, and the labours of the medical officer, as well as the sufferings of the patient, require to be considered; and it will I imagine be found of no little advantage, in all these respects, in many cases which are incident to the soldier and sailor.

II. ON THE UNADHERENT ESCHAR.

THE eschar is generally adherent in cases of recent injuries, and in small ulcers, when they are nearly even with the skin and attended by little inflammation. In other cases the eschar is too apt to be unadherent, and this arises from the formation of pus or of a scab underneath.

If the eschar be unadherent by subjacent pus, it may be ascertained in the space of from twelve to twenty-four hours; the centre is generally observed to be raised and to yield to the pressure

of a probe; sometimes the subjacent fluid has partly escaped by an opening at the side of the eschar.

When a scab forms underneath the eschar, which does not happen except the fluid has been allowed to remain too long under the eschar without being evacuated, there are pain and some inflammation, the eschar does not separate, but remains long over the sore, and there is no appearance of healing.

When it is ascertained that there is fluid underneath the eschar, a slight puncture is to be made by the point of a penknife, the fluid is to be gently

pressed out, and the caustic is then to be applied to the orifice thus made. The same plan is to be adopted if the fluid ooze out at the edge of the eschar; it is to be fully evacuated by pressure, and the orifice is to be touched with the caustic. The healing process goes on best however when the orifice is in the centre of the eschar. After this treatment the eschar occasionally remains adherent, but more frequently the fluid requires to be evacuated repeatedly, and this should be done every twelve hours, or once a day, according to the quantity of fluid formed, taking care that the eschar be not needlessly separated by allowing the fluid to accumulate under-

neath. If, from accident, the eschar is separated before the sore be healed I would reapply the caustic. At length the eschar becomes adherent, and in due time begins to peel off, leaving the surface healed.

In every case in which the eschar does not separate favourably, I begin to suspect the formation of a scab underneath, in which case the whole must be removed by the application of a cold poultice for two or three days; this has not only the effect of removing the eschar but of allaying any inflammation or irritation; afterwards the caustic must be reapplied as before.

The gold-beater's skin is more useful as a protection to the unadherent than to the adherent eschar, as the former would be more liable to be torn off by accident than the latter. The gold-beater's skin must be removed in the manner already described, whenever the subjacent fluid is to be evacuated, and must be reapplied after touching the orifice with caustic.

The pain experienced on the application of the caustic is greater or less according to the sensibility and size of the wound. In small wounds it is trifling, and of short duration; it is more severe in recent wounds than in ulcers;

it soon subsides in every case, and then the patient enjoys greater ease than would be experienced under any other mode of treatment. Little or no pain is caused on applying the caustic after evacuating the subjacent fluid of an unadherent eschar. Altogether the pain inflicted by the caustic is far less than is generally imagined, and forms scarcely an obstacle to its employment.

It may be proper, in this place, to notice such circumstances as render the employment of the caustic improper or inefficient. It is improper to employ the caustic when the ulcer is too large to admit of the formation of a complete

eschar; or when it is so situated as to render it impossible that the eschar should remain undisturbed, as between the toes, unless, indeed, the patient be confined to his bed;—or in cases attended by much inflammation, or by much œdema.

I have found no kind of caustic so manageable as the lunar caustic; and this is best applied in the solid form. I have thought too, that the newly prepared lunar caustic is more apt to dissolve on being applied than that which has been longer made and more exposed to the air; the latter is therefore to be preferred.

III. ON THE TREATMENT BY ESCHAR AND POULTICE.

IN many cases in which it is impossible to adopt either the mode of treatment by the adherent or the unadherent eschar, it is of great utility to apply the caustic first and then a cold poultice made without lard or oil: this plan is particularly useful in cases of punctured wounds attended by much pain and swelling, and in cases of recently opened abscesses. By this application the pain and swelling are much subdued and a free issue is secured for the secreted fluid; and in no case have I seen the original inflammation increased by it.

It is generally necessary to repeat the application of the caustic every second or third day, or every day if the inflammation and swelling of the part be considerable, and the cold poultice may be renewed about every eight hours. At length, however, the inflammation having subsided, the attempt may be made to form an adherent eschar.

I have seen many cases, in which, by this mode of treatment, much suffering and perhaps the loss of some of the smaller joints have been prevented, particularly cases of deep seated inflammation of the fingers, which, having

been neglected, have issued in severe inflammation, abscess, and terrible fungous growths. In these cases it is not only necessary to apply the caustic to the surface of the sore, but in every cavity or orifice which may be formed by the disease.

CHAPTER II.

ON THE APPLICATION OF THESE MODES OF TREATMENT
TO PARTICULAR CASES.

I. OF PUNCTURES ETC.

IN cases of recent punctured wounds the orifice and surrounding skin should be moistened with a drop of water; the caustic should then be applied within the puncture until a little pain be felt, and then over the surrounding skin, and the eschar must be allowed to dry. In this manner it is astonishing how com

pletely the terrible effects of a punctured wound are prevented; the eschar usually remains adherent, and the case requires no further attention.

At a later period after the accident, when the caustic has been neglected, some degree of inflammation is usually present, the orifice is nearly closed with the swelling, and a little pus or fluid is formed within. A slight pressure will evacuate this fluid, the caustic may then be applied within the puncture, and over the surrounding skin, beyond the inflammation, and must be allowed to dry. In this manner we frequently succeed in forming an adherent eschar, and

all inflammation subsides. Any slight vesication which may be raised around punctured wounds is not of the same consequence as when an adherent eschar is wished to be formed over a sore or ulcer; one or more small punctures may be made to evacuate the fluid and the part may be allowed to dry.

If there is reason to think that an abscess has actually formed under the puncture to any extent, it must be opened freely by a lancet and treated with caustic and poultice, keeping the poultice moist and cold with water.

In cases of puncture where the orifice is healed and where an erysipelat-

ous inflammation is spreading, attended with swelling, I have applied the caustic freely over and beyond the inflamed parts, and I have had the satisfaction to find that the inflammation has been arrested in its progress and has shortly subsided.

This mode of treatment is particularly useful in cases of punctured and lacerated wounds from various instruments, such as needles, nails, hooks, bayonets, saws, &c. and in the bites of animals, leech-bites, stings of insects, &c. In considerable lacerations the same objection would exist to this treatment as in large ulcers.

The dreadful effects of punctures from needles, scratches from bone, or other injuries received in dissection, are totally prevented by this treatment. I have for the last five years had frequent opportunities of trying it in these cases and have the most perfect confidence in its success.

The advantage of these modes of treating punctured wounds will however be best explained and established by a selection of cases, to which I can add particular remarks as they may be suggested by peculiarities in the cases themselves.

CASE I.

A. B. received a severe punctured wound by a hook of the size of a crow-quill, which pierced into the flesh between the thumb and fore-finger on the outside of the hand; scarcely a drop of blood followed, but there was immediately severe pain and tumefaction. The lunar caustic was applied without loss of time, deep within the orifice and around the edge of the wound; and the eschar was left to dry. The smarting pain induced by the caustic was severe for a time but gradually subsided.

On the ensuing day, the eschar was adherent and there was little pain; but there was more swelling than usual after the prompt application of the caustic, owing to the mobility of the part.

On the third day the swelling remained as before, and there was a little sense of heat. On the fourth day the swelling and heat had subsided, and the eschar remained adherent. On the succeeding day the eschar had been removed by washing the hand, and the puncture was unhealed but free from pain and irritation. The caustic was reapplied.

From this time the eschar remained adherent, and at length gradually separated leaving the part perfectly well.

It is quite certain that under any other mode of treatment this severe puncture would have greatly inflamed and have proved very painful and troublesome; and it is not improbable but that suppuration and much suffering might have ensued. All this is effectually and almost certainly prevented if the caustic be applied promptly, as in this case. When time has been lost, the case is very different as will appear hereafter; but even in these cases, the caustic proves an invaluable application.

CASE II.

Mrs. Middleton, aged 40, wounded her wrist, on the ulnar side, by the hook of a door post; there was a considerable flow of blood at first, but this ceased suddenly and the arm immediately became affected with great pain and swelling. The lunar caustic was applied in half an hour after the accident.

On the following day the eschar was observed to be adherent, and the patient reported that she had suffered scarcely any pain, after the smarting of the caustic had ceased. There was a slight

swelling round the puncture but that of the arm had totally subsided. The caustic was applied over and beyond the swelling. On the third day all tumefaction had subsided and there was no complaint whatever.

I hoped that this case would have required no further attention or remedy. But my patient contrived unfortunately to rub off the eschar about a week after its formation, and so to expose the subjacent wound unhealed; she suffered however no pain or inconvenience from it; and it was again shielded by means of a fresh eschar, which remained adherent until removed by the healing process underneath.

This puncture was so severe that the arm was in a state of ecchymosis for six or eight inches upwards, and I doubt not that without the caustic, there would have been severe and long continued suffering, and perhaps painful suppurations.

CASE III.

A female servant punctured the end of the finger by a pin; there succeeded much pain and swelling, and it appeared that the nail would separate, and the cuticle all round the finger was raised by the effusion of fluid. This fluid was evacuated and a poultice applied.

On the third day the cuticle was removed, and the exposed surface was found to be ulcerated in several spots. The lunar caustic was passed slightly over the excoriated surface, which was then left exposed to dry.

On the succeeding day the eschar was adherent and the pain had almost subsided. On the next day, the eschar still remained adherent, and as there was neither pain nor soreness, the patient used her finger.

The eschar was at length removed by the healing process and was separated together with the nail, and the case

was unattended by any further inconvenience or trouble either to the patient or myself.

It is scarcely necessary to contrast the advantage of this mode of treatment with that by plasters, poultices, &c. It is at once more speedy and secure, and less cumbersome to such patients as are obliged to continue domestic avocations.

CASE IV.

The present case is somewhat more severe than those which have been already given, and what is of great im-

portance, the caustic was not applied immediately after the accident.

William Chantry, aged 50, received a stab in the wrist with a hay-fork yesterday and applied a poultice; to-day there are great pain and swelling, and the wounded orifice is very small. I applied the lunar caustic within the puncture, and directly a cold poultice to be worn over it; the arm was kept in a sling.

The next day the swelling and pain were diminished, and a little lymph flowed from the wound. I again applied the caustic and continued the poultice.

Two days afterwards, the swelling and pain were nearly gone. The poultice was merely continued, the caustic not being requisite from the subsidence of the inflammation. The patient came to me again in four days more quite free from pain and swelling. The poultice was discontinued, and the caustic was then applied in order to form an adherent eschar, in which I was successful.

This case illustrates many important points; 1. it shows the efficacy of the caustic with the poultice as a remedy against inflammation; 2. it presents an instance of a labouring man returning to work on the sixth or seventh day

after a severe accident, even when the application of the caustic had been unfortunately delayed; 3. it points out the proper treatment, when all hope of the treatment from the first by adherent eschar is lost from such delay,—for had this been attempted in this case, supuration would doubtless have taken place from the closed state of the puncture by the swelling;—our objects must therefore be, to open the puncture and to subdue the inflammation, and these objects are admirably attained by means of the caustic.

The following case is not less instructive.

CASE V.

Mr. Cocking's son, aged 12, received a stab in the palm of the hand from a penknife three days ago, which has been followed by much swelling and pain, the punctured orifice being nearly closed. I applied the lunar caustic as deep as possible within the puncture and directed a cold poultice to be laid over the whole hand.

On the next day I found that the poultice had not been applied; there were more pain and swelling; an eschar was formed over the puncture which I

removed and thus gave issue to a considerable quantity of pus; I again enjoined the application of a cold poultice kept constantly moist and cold with water.

On the succeeding day, the inflammation had greatly subsided. I repeated the application of the caustic and poultice. On the fourth day the inflammation had nearly disappeared and on the fifth entirely.

In such cases the caustic unites the advantages of at once opening the puncture and of subduing the inflammation,

thus preventing the formation of deep-seated abscesses.

CASE VI.

A little boy, aged 12, received a stab by a penknife a few days ago, in the fore part of the thigh; there are now great pain and swelling, the orifice is nearly closed, and he has feverishness with headach. I applied the lunar caustic deeply in the wound, and directed a poultice and a cold lotion to be kept upon the inflamed parts; and suspecting fascial inflammation, I took away ten ounces of blood and administered purgative medicine.

On the next day, the inflammation had greatly subsided; the cataplasm and lotion were continued.

On the third day, there was some inflammation round the puncture which appeared to be closing; I repeated the application of the caustic within the orifice of the wound.

On the fourth day the swelling was subsiding and there was no pain. The poultice and lotion were continued.— From this time there was no occasion for any remedy, and the little patient speedily recovered.

CASE VII.

Mr. Parr, aged 30, of delicate habit, trod upon a needle which pierced the ball of the great toe; a free crucial incision was made but the needle could not be found; a poultice was applied to the wound and over the poultice a cold lotion.

In the course of a week part of the needle came away. He did not rest as he was enjoined to do, and, in consequence, severe inflammation came on, and in two days time, fluctuation was perceived over the joint, opposite to

the puncture; a free incision was made, and some pus was evacuated.

On the following day there was a free discharge, but very considerable inflammation had taken place on the side of the ball of the toe; a free incision was made in this part, and a fresh quantity of pus was evacuated.

On the succeeding day, the inflammation was somewhat abated; but on the next day, it had again become exasperated, and the openings made for the evacuation of matter were somewhat closed by the swelling. I now introduced the lunar caustic very freely into

these openings, and reapplied a cold poultice and lotion.

On the following day, I found that my patient had slept well for the first time since the developement of inflammation, and had suffered far less, after the smarting pain from the application of the caustic had subsided, than before; the punctured orifices were open, and the skin, which was extremely tense the day before, was become soft and flexible.

From this time, I found nothing necessary but to repeat the application of the caustic about every third day to

subdue inflammation and to keep the wounds open, which it always effected. The joint ever afterwards remained stiff, from which we may infer the violence of the inflammation; and when we consider what was the constitution of my patient, we cannot, I think, doubt that the caustic prevented many serious events usually consequent in such cases under the ordinary treatment.

It is highly worthy of remark, that the good effects of the application of the caustic, in this case, were too immediate and distinct to be mistaken.

CASE VIII.

This case illustrates the mode of treatment by the lunar caustic, of those terrible effects of punctured wounds which have been neglected in the beginning.

B. Unwin, aged 40, washerwoman, applied to me on July the 10th, 1820, with severe inflammation and ulceration of the middle finger, arising from a puncture by a pin or needle some time before; there was much painful tumefaction, and the integuments had burst along nearly half of the length of the

finger, on the ulnar side, and over the middle joint on the radial side; the probe did not however pass to the bone or into the joint. I applied the lunar caustic deep in every part, and over the whole surface, and enveloped the finger in a cold poultice covered with cold water.

On the 11th she reported that she had slept well for the first time during the last fortnight; to-day there is scarcely any pain, but she complains of soreness; the swelling has greatly subsided. The caustic was again applied and the poultice and lotion continued.

On the 12th there were still swelling and pain; there was considerable bleeding from the wound, so that I could not apply the caustic well.

On the 13th the swelling and pain were nearly gone. I repeated the caustic which induced bleeding from the fungous flesh.

On the 14th the swelling had nearly subsided; the cuticle was separating all over the finger. The lunar caustic was applied extensively over the wound and abraded parts and induced little bleeding or pain.

On the 15th the fungous was nearly removed; the wound presented an appearance of slough over its surface.—The caustic was applied to the remaining fungous.

On the 17th the wound was much smaller and the slough separating. The caustic and cataplasm were applied as before.—A similar report was made on the succeeding day.

On the 20th the slough was separating. The caustic and cataplasm were applied.—A similar report was made on the 22d.

On the 24th the slough having separated the integuments over it were flabby and loose; the caustic was applied to them.

By a continuation of this plan the wound gradually contracted, and, at length, when there was no further use for the cataplasm, the eschar became adherent and the sore healed underneath. It appeared highly probable to me that, under ordinary treatment, the finger, in this case, would have been lost.

I shall in this place, introduce a few observations on wounds received during dissection.

It is not in my power to give any cases in illustration of the treatment of the severer accidents resulting from these wounds; for since I began the free use of the lunar caustic all the terrible effects of such wounds have been invariably prevented.

I may here mention that in the years 1813 and 1819, respectively, I was myself exposed to great danger from inoculation during the examination of dead bodies. Since the latter period I have repeatedly been exposed to the same danger from inoculation, but in every instance, the danger has been completely averted by the prompt and free application of the lunar caustic.

The following is the exact mode of treatment which I would adopt in such cases.

In recent punctures the caustic should be applied in the manner already described in cases of simple punctured wounds.

When the case has been neglected, a small tumour is usually formed underneath the skin with smart stinging pain; this tumour should be removed entirely by the lancet, and the caustic should be applied, both to the surface of the wound and over the surrounding skin, to form an adherent eschar.

When the case has been still longer neglected, and inflammation of the absorbents has supervened, a free crucial incision is to be made, the caustic is to be very freely applied, and afterwards a cold poultice and lotion, the usual constitutional remedies being actively enforced.

In connexion with punctured wounds I here subjoin several cases of the bites of animals.

CASE IX.

James Joynes, aged 12, was bitten by an ass, on each side of the middle

finger; the wounds were severe, and almost immediately followed by swelling and great pain. The lunar caustic was well applied within half an hour after the accident.

On the succeeding day, the eschar was found to be quite adherent, and the pain and swelling had subsided.

The eschar separated in about twelve days and the wounds were healed.

CASE X.

Mr. Worth's daughter, aged six, was thrown down by a dog and bitten se-

verely on the face and forehead in three places; one of the wounds in the cheek was deep from the penetration of the dog's front teeth, and the parts were much bruised. The lunar caustic was well applied in half an hour after the accident to each of the wounds, and the eschar was covered with gold-beater's skin.

On the next day the eschars were adherent. There was some swelling from the severity of the bruise; but the child made little complaint.

On the third day, the swelling remained as before and the eschar adher-

ent. On the fourth, the swelling had nearly disappeared.—The eschar separated in nine days from the infliction of the wound, leaving the parts healed and free from scar.

CASE XI.

Mrs. G. was bitten by a little dog on forefinger about a fortnight ago. There is now a very irritable, inflamed, fungous sore. I removed the fungous by a pair of scissors and applied the lunar caustic to form an eschar.

On the succeeding day, I found that the patient had applied a little lint be-

fore the eschar was dry, which had prevented it from remaining adherent. I reapplied the caustic and desired that the eschar might be exposed to dry.

The eschar remained adherent, the inflammation subsided and the case gave no further trouble.

CASE XII.

A servant maid was bitten by a dog in four places—severely on the forearm—three days ago. Adhesive plaster had been applied. There is a wound across the arm two inches in length and three-fourths of an inch in breadth, at-

tended by dull pain, and swelling of the arm. I applied the caustic to form an eschar, covering it with goldbeater's skin.

On the following day the eschar remained adherent round the edges, but had a puffy feel in the centre; I pierced it with a penknife and a little bloody fluid escaped, and I touched the orifice thus made with the caustic. The swelling remained as before, with a degree of soreness.

On the next day the swelling had subsided. The eschar had the same character; a little fluid was again eva-

cuated and the caustic applied to the orifice as before.

This mode of treatment was pursued for nine successive days when the eschar remained adherent in every part.

This patient continued her usual avocations all along. Under any other plan of treatment I think it impossible that she should not have been compelled to rest for a number of days.

Adherent eschars were formed on the other three bites which were less severe, from the first application.

A very irritable sore sometimes forms after the application of leeches. I knew one lady who was confined during five weeks with several sores on her foot from such a case. I have no doubt that the application of the caustic would have prevented all the inconvenience and suffering she experienced. This observation will be confirmed by the following case.

CASE XIII.

An old man applied leeches to the instep for inflammation occasioned by a bruise. Several very irritable sores were produced with some swelling. I

applied the lunar caustic to form an eschar.

On the following day, the eschars were adherent, the swelling had subsided, and he had slept well for the first time of several nights.

I do not, however, think the lunar caustic would succeed in such cases if attended by great inflammation, without the previous application of a cold poultice with rest for a day or two.

II. ON BRUISES.

It has been already observed, p. 9, that the caustic is an invaluable remedy in cases of bruised wounds of the shin. In these, as in all other cases, the value of this remedy is greatly enhanced by an early application. In bruises on the shin I have not had a single instance in which I was not enabled to effect a cure by the adherent eschar, if application was made to me early. The difficulty of forming an adherent eschar is always increased by delay; but in these bruises along the shin there is an additional reason for this increased difficulty, aris-

ing out of the tendency observed in them, to the formation of a slough.

In this place I have, indeed, to make an observation of particular interest, both in a pathological and curative point of view; it is, that the formation of this slough has always been prevented by an early application of the caustic, in the cases which have hitherto fallen under my care. This fact may probably admit of explanation in the following manner; the bruise partially destroys the organization of the part, and the subsequent inflammation completing what the injury had partially effected, a loss of vitality takes place, and the

slough is formed. The early application of the caustic has already been shown to have the remarkable effect of preventing the inflammation consequent upon certain wounds, and thus the part is suffered to recover from the injury done to its organization, and its vitality is preserved.

Whether this mode of explaining the fact be correct or no, the fact itself is extremely important, for the formation of a slough, which the early application of the caustic can alone prevent, renders it quite impossible to effect the formation of an adherent eschar.

When the patient applies too late after the accident to prevent the formation of a slough we must still treat the case by the caustic. It is to be applied over the bruised and inflamed part. The eschar remains adherent round the part occupied by the slough and prevents or moderates the inflammation, and when the slough separates an eschar is to be formed over the exposed sore.

In the neglected and severer cases of bruise attended by much inflammation, it will be found best to treat the part for a day or two by a cold poultice to give time for the inflammation to subside; otherwise the caustic might

induce vesication of the skin, as I have mentioned already, p. 5, and the eschar could not be adherent.

CASE XIV.

The first case of bruise which I shall detail was not severe, but will serve to illustrate the mode of treatment by the adherent eschar.

Mr. Symons, aged 60, slipped off a chair and bruised the shin, last evening; the skin was removed to the extent of an inch in one part and a square inch in another. He applied a common poultice. During the night he had much

pain, and to-day there is much inflammation round the wounds. I applied the lunar caustic over both wounds and covered the eschar with gold-beater's skin to prevent the contact of the stocking.

On the following day the eschar was found to be perfect. The pain had entirely ceased. There was a little vesication round one of the wounds. I simply evacuated the fluid of the vesication and left the part exposed to dry.

On the third day there was no pain or inflammation, and the eschar remained adherent.

From this time no remedy was required. The eschar separated leaving the surface healed, in about a month from the occurrence of the accident. The patient suffered no sort of inconvenience nor was he confined from his labours a single day.

CASE XV.

The following case was far more severe, but the mode of treatment was not less efficacious.

Mr. Granger, aged 36, was exposed to a severe bruise by a great weight of stones which had been piled up, falling

upon the outside of the leg; he was extricated from this situation with much difficulty. Besides the bruise, the skin was removed from the outside of the leg to the extent of ten or twelve inches in length, and in some parts an inch and half in breadth; and in the forepart of the ankle a deep furrow was made by the rough edge of one of the stones. I applied the caustic in about half an hour after the accident, over the whole surface of the wounds, and protected the eschar by the gold-beater's skin. The patient was directed to keep the leg cool and exposed to the air. He took no medicine.

On the succeeding day the leg was a little swelled, but the patient did not complain of any acute pain but only of a sense of stiffness. An adherent and perfect eschar was found to be formed over the whole extent of the wound. There was no fever.

On the third day, the swelling had abated. No further remedy. The patient was still enjoined to rest.

On the fourth day the swelling was nearly gone. The eschar remained adherent. The patient walks about.

From this time the patient pursued his avocation of a stone-mason; no fur-

ther remedy was required; no inconvenience experienced; and the eschar separated in about a month.

I think it totally impossible to have cured this wound, by any other remedy, in less than a month; during which period the patient must have suffered much pain and fever, and have been quite confined.

It is also quite certain, I think, that there would have been an extensive slough, from the severity of the bruise. This was doubtless prevented by the application of the caustic.

CASE XVI.

J. Jennings, bricklayer, aged 26, fell through the roof of a house and bruised and lacerated his shin rather severely to the extent of an inch and half in one part and in several other places in a less degree. I applied the lunar caustic to the wound immediately.

On the following day the eschar was found to be adherent, and there was neither pain nor swelling.

The eschars separated in nine days leaving the wounds healed.

It is remarkable that the eschar remains a greater or less time over the wound according to the severity and exigency of the case. This case being less severe than the former one the eschar remained upon the wound during a much shorter period of time.

CASE XVII.

An old man, aged 60, received a bruise upon the occiput from a fall; the skin was lacerated and removed to the extent of half-a-crown. I applied the lunar caustic soon after the accident.

On the next day an adherent eschar was formed. There was neither pain

nor swelling.—The eschar separated in a fortnight.

CASE XVIII.

Mrs. C. aged 40, was detained on a journey by a bruised wound on her knee, received a fortnight before, which was healing very slowly under the usual mode of treatment. The inflammation was subsiding but the sore was extremely irritable and painful, and she was prevented from moving. From the degree of inflammation still present, I applied the lunar caustic very slightly over the sore and not over the inflamed skin; I left the eschar to dry, but was

very doubtful, from the same cause, whether it would be adherent or no.

On the succeeding day I found that the eschar did remain adherent and that the inflammation was diminished, and the soreness had entirely subsided after that induced by the caustic had ceased.

On the next day, the lameness was gone, and there was no sort of inconvenience from the wound. My patient continued her journey on the following day, so that I do not know when the eschar separated.

In regard to the inflammation attendant on these wounds, I would re-

mark that slight inflammation is relieved by the application of the lunar caustic and does not prevent the formation of an adherent eschar; but very severe inflammation requires the application of the cold poultice and lotion over the wound, and it is necessary to watch for the period when an eschar may be attempted with the lunar caustic. This a little experience will readily teach.

It is further to be particularly observed that the inflammation attendant on a recent wound is removed by the caustic, when the same degree of inflammation at a later period, and with supuration, would be aggravated and re-

quire the cold poultice and lotion, and render the formation of an adherent eschar impossible. This fact, the result of much experience, is extremely interesting, and, I think, not easy to be explained. It is illustrated by the following case.

CASE XIX.

Robert Hill, aged 16, received a blow yesterday from a bone which was thrown at him, upon the outer condyle of the humerus. He complains of extreme pain and there are much redness and swelling. I applied the lunar caustic

and directed the part to be exposed to the cold air.

On the succeeding day, I found that the eschar was quite adherent, and that the pain, redness and swelling had much subsided, although there was some stiffness of the elbow.

On the third day there was still further amendment. From this time no remedy or attention was required.

CASE XX.

It frequently occurs to surgeons to receive slight wounds upon the hands

which prove very troublesome. Of this kind is the following.

Mr. L. C. had an irritable and inflamed sore on the ulnar side of the third finger, occasioned by a bruise a fortnight ago. Many applications had been made during this fortnight but the sore had no disposition to heal. I applied the lunar caustic to form an adherent eschar.

From this time the pain and inflammation subsided. The eschar remained firm and adherent, and in six days separated leaving the wound healed.

III. ON ULCERS.

FROM the preceding observations it would naturally be concluded that the lunar caustic would afford a remedy for the treatment of ulcers. This conclusion is perfectly just. Yet there are many circumstances which render the mode of treating ulcers by the caustic, efficacious or the contrary.

In order that the treatment by eschar may be successful, there must be the following conditions in regard to the ulcer: first, the surface occupied by the ulcer must not be too extensive; second-

ly, it must not be exposed to much motion or friction; and thirdly, it must not be attended by a profuse discharge: for all these circumstances have a direct effect in preventing the formation of an adherent eschar or of removing it if formed.

I observe, therefore, that I have not found the mode of treatment by eschar to succeed in large ulcers of the legs. But in small ulcers, and especially in those irritable and painful little ulcers which are so apt to form about the ankle and occasionally occur near the tendo achillis, and in which Mr. Baynton's plan is inadmissible, the caustic is invaluable;

in these cases the cold poultice and lotion should precede the application of the caustic, for a few days, that the irritability and inflammation of the sore and surrounding skin may be first subdued; and after the eschar is formed, the part must be kept exposed to the air and defended from external injury, by enjoining the patient to wear trowsers and to be careful not to disturb the eschar.

The plan of curing ulcers is exactly what has been described in the treatment by the unadherent eschar. For in these cases the eschar is generally unadherent at first. It is necessary therefore in all cases, except those of

very small ulcers, to examine the eschar, making a small puncture or rather smooth incision in its centre, so as to evacuate the subjacent fluid if there be any, taking great care not to break down or bruise the eschar so as to leave its inferior surface at all ragged. This operation should be repeated daily until the eschar proves to be quite adherent. And if the ulcer be rather large, rest should be enjoined until the adherent eschar be fully and safely formed, and a dose of saline purgative may be interposed. It must also be particularly borne in mind, that the eschar must be constantly defended by the gold-beater's skin, which must be removed and reapplied at each examination.

I have here spoken of ulcers upon the legs. But the same observations apply to ulcers on other parts of the body, and these are, in general, far more manageable than the former, and do not require the same rest during the unadherent state of the eschar.

CASE XXI.

Mrs. Butcher, aged 52, has two ulcers a little above the outer ankle, one the size of half-a-crown, the other, of a shilling, of four months duration, which are now in a healing state by the application of cerate and poultice; the healing process is going on very slowly.

These ulcers were caused by a fall which bruised the part but made no wound at the time; two small spots, which she compared to the pustules of small-pox, formed, broke, and gave rise to the ulcers. I applied the lunar caustic to form eschars.

At this time I had not begun to defend the eschar by the gold-beater's skin, and in consequence both these eschars were torn by the patient's stocking having adhered to them, and there was an oozing of fluid from the centre of each eschar on examination on the following day. I again applied the lunar caustic.

On the succeeding day, I found that the large eschar had again been disturbed, the patient having applied a little linen, instead of leaving it exposed. I reapplied the lunar caustic.

On the next day both eschars were complete, but there was a little fluid under the centre of each, which required to be evacuated by an incision. There was little inflammation or pain.

On the following day, my patient expressed herself as astonished at the rapid amendment. A little fluid was again evacuated from beneath the centre of the eschar.

On the next day the smaller eschar was quite adherent; under the large one, there was still a very little fluid.

About the ninth day, both the eschars were perfectly adherent. In two days afterwards the eschars began to separate round the edges, and in a few days more, it was necessary to remove the separating portion by the scissors.—In the course of time the eschar separated completely, leaving the ulcers healed.

Mrs. Butcher had no pain after the first four days from the application of the caustic, and in a week was able to attend to her household affairs.

CASE XXII.

J. Copeland, blacksmith, aged 38, came to me with many deep ulcerations, from the size of a horse bean to that of a pea, attended with great pain, heat, itching and excoriations of the surrounding skin, obliging him to rest at different times, for several days together. These ulcers came without any apparent cause, have continued for many weeks, and have only been a little benefitted by rest, although he has applied many kinds of ointment, the last consisting of equal parts of mercurial and of the tar ointment. I applied

the lunar caustic upon each ulcer, but not over the excoriation, and I enjoined the patient to leave the whole exposed to dry.

On the following day, I was gratified to find that eschars had formed upon every ulcer; upon examination, a little fluid was found to subsist under several of the larger eschars; this I evacuated, and I then applied the lunar caustic to the points from which it had issued to make up the breach of continuity of the eschars over the surface of the ulcers. There was far less inflammation and scarcely any pain, and he has continued his occupation of blacksmith.

On the third day nearly all the eschars were adherent; three, however, had unfortunately been removed by an accident; I renewed them by again applying the caustic.

In four days after the last report, most of the eschars had separated from the smallest ulcers leaving the parts healed.

In a day or two more, my patient took cold and was affected with hoarseness and cough, and the skin round the eschar became excoriated a little. I directed a saline purgative and applied the lunar caustic to the excoriated parts.

On the succeeding day his cold was better and the eschars adherent. I directed five grains of the Plummer's pill to be taken night and morning, which he continued about a week.

Five days after this period, I again observed a disposition to excoriate. I applied the caustic.

In two days more, the eschars were adherent, and there was no further appearance of excoriation.

In ten more days, the eschars had separated and all the ulcers and excoriations were completely healed.

This case occurred several years ago, and there has been no return of the affliction whatever.

CASE XXIII.

Mr. Marshall, aged 60, had a troublesome ulcer under the outer ankle, of an oblong form and of the size of sixpence. He has been long subject to ulcers of the legs, and he had a similar ulcer to the present one in the same situation, some years ago, which proved extremely difficult to heal under usual remedies. The veins are varicose.— From the small size of the ulcer, I applied the lunar caustic and protected the eschar by the gold-beater's skin.

On the following day, I found the eschar complete but unadherent by the effusion of a little fluid; this I evacuated daily in the manner already described, for about a fortnight, when the eschar became adherent.

During the progress of the cure a little excoriation formed round the eschar. I touched the parts with the caustic, and the eschar thus formed served to support that formerly made, and so to do good. The whole adhered until the sore was very nearly healed; but as it was situated in a part greatly exposed, it was removed by accident. The caustic was again applied; fluid formed underneath

the eschar as before and required evacuating thrice; but at length the eschar adhered, and in due time separated leaving the ulcer quite healed.

The same patient has since been affected by similar ulcers at different times in different parts of the leg. He applied early and they were each time easily cured by one application of the caustic. He has also twice had injuries upon the shin, which were readily cured in the same manner.

CASE XXIV.

The following case must not be regarded as altogether trifling. For such

sores are very apt to spread and to remain long very troublesome.

An old gentleman came to me with an oblong ulcer on the shin about an inch in length; it was very painful and inflamed. I applied the lunar caustic to form an eschar and requested him to call on the following morning. He did not come, however, but on seeing him the next day it was requisite to evacuate a little fluid; this was repeated on the third day, after which period the eschar remained adherent, and the part totally free from pain.

The eschar separated in about three weeks leaving the part healed.

CASE XXV.

The following case illustrates the superior efficacy of the lunar caustic over the ordinary modes of treatment in some ulcers of the legs; and will, I trust, be found particularly interesting.

Mr. G. B. aged 60, a very tall and stout person, had two ulcers, one of the size of a shilling upon the back of the leg just above the tendo achillis, the other rather less, on the outside of the leg; they were caused by his scratching the parts severely three months before; and he had used various remedies in the

interval. There were some œdema of the leg to which he is subject, and much pain and inflammation of the ulcers. I directed the application of a cold poultice and lotion, and prescribed the pil. hydrarg. every second night with an aperient draught the following morning.

This plan of treatment was continued for a number of days without any appearance of healing in the ulcers. As the inflammation had subsided I proposed to adopt the mode of treatment recommended by Mr. Baynton, fearing that any attempt to heal the ulcers by eschar would fail on account of the œdema. This project was deferred,

however, by the patient's wish to try the effect of sea-bathing. After a month's residence on the sea shore I was, on the return of my patient, again requested to examine these ulcers, which I found very nearly in the same state as before, only with the addition of some excoriations. I recommended the cold poultice for a few days to allay inflammation, and then tried Mr. Baynton's plan, dressing the leg myself daily; on the fourth day, however, the sore above the tendo achillis became so irritable that I was compelled to desist and to remove the plaster and bandage, and I again directed the cold poultice with rest, for a few days.

When the inflammation had again subsided, I ventured, notwithstanding the œdema, to apply the lunar caustic to form an eschar, enjoining rest and the horizontal position.

On the following day complete but unadherent eschars were formed over each sore. There had been no pain after the smart of the caustic had ceased. On carefully making an incision into the centre of each eschar, a little fluid was evacuated.

On the second day, rather more fluid was evacuated in the same manner. There was a little more inflammation round the eschar than yesterday.

On the third day the sores were exactly in the same state. On the fourth, the patient having used his leg a little, rather more fluid was evacuated from the centre, and there was rather more inflammation round the edges, of the eschars. I enjoined the strictest rest.

On the fifth day, there were less inflammation and discharge.

From this day until the tenth the fluid required daily evacuation; the eschar became adherent, and I allowed my patient to walk about.

In about six weeks the eschar was nearly separated and I removed it by

the scissors, leaving only a portion adherent of the size of a pea. It had been prevented from being removed from the beginning, by the gold-beater's skin. The smaller eschar had dropped off leaving the ulcer quite healed. In a week more the last portion of eschar separated from the larger sore, leaving it also quite well.

CASE XXVI.

The following case occurred in the person of a lady with varicose veins and far advanced in pregnancy. Its speedy cure by the caustic was, there-

fore, the more remarkable, and saved her much trouble and suffering.

Mrs. C. aged 40, had two small irritable and inflamed ulcers, under the inner ankle. I applied the lunar caustic to form an eschar.

It was requisite to evacuate a little fluid from under the eschars for three successive days; they then remained adherent.

About the usual time the eschars separated, leaving a small point of the size of a pin's head, unhealed; this I again touched with the caustic. The case required no further attention.

This case leads me to caution my readers always to examine the parts carefully after the separation of the eschars, and if there be the slightest ulcer remaining to apply the caustic to it.

CASE XXVII.

Mrs. Wakefield, aged 36, had an extensive ulceration with excoriation on the upper part of the right breast, of two months continuance; it had been greatly aggravated by improper treatment. I applied the lunar caustic over the whole ulcerated and excoriated surface. It gave much pain.

On the following day I was concerned to find that part of the eschar had been separated by the patient's dress. I repeated the application of the caustic and again directed the part to be exposed and carefully protected from being disturbed. The breast required to be supported being full of milk.

On the succeeding day an adherent eschar existed over all the ulcerated parts, and the pain, redness, and irritation had nearly subsided.

On the fourth day there was still less pain and inflammation. On the

eight the eschars had separated and the breast was quite well.

CASE XXVIII.

Mrs. U. aged 60, has been subject to ulcerated legs for several years. She has one ulcer on the outer ankle of the size of a shilling, and another behind it of the size of a horse-bean; they have been extremely troublesome and under surgical treatment for the last year, but during the last few weeks she has tried cerate, poultice, and the cold lotion. The leg is smuch swollen and inflamed, the redness extending several inches round the wound and over the instep;

the œdema increases towards night. She has been in the habit of taking saline purgatives frequently.

I directed my patient to continue the cold poultice and lotion, and to rest completely for several days. At this period, the inflammation having somewhat abated, I applied the lunar caustic to form eschars and protected the parts with gold-beater's skin.

On the following day there was a slight increase of redness round the eschars. Upon making an incision into their centre some fluid was evacuated. The same report was made on each of the two following days.

On the seventh day, the eschars having been neglected, fluid had escaped from beneath the eschars at their edges, and my patient complained of more pain. A little more fluid escaped in the same manner on the following day on making a little pressure upon the eschars. I applied the caustic to make up the breach.

Subsequently to this day there was an increase of inflammation. From this circumstance, and from the neglect of the eschars for two or three days already mentioned, I suspected the formation of a scab under them. It was impossible to pierce the eschars by the

penknife without breaking them, as they had become too hard and thick by delay and the addition of the scab.

I again directed the cold poultice for four or five days. On examining the wounds on the separation of the eschars, I found the healing process going on. I reapplied the lunar caustic to form eschars, and I evacuated a little fluid from their centre for three successive days.

At this time the patient took cold and a smart attack of fever came on, and the part round the eschars became much inflamed. I prescribed an emetic

and purge, and a cold poultice and lotion.

In the space of a week I again attempted to form an eschar over the larger wound, for the smaller one had quite healed.

The next day I discharged a little fluid from the centre, and again on the eight or nine succeeding days, giving saline purgatives.

After this time the eschar remained adherent, and no further remedy was required.

This case is particularly interesting and important, as it illustrates the plans to be adopted in two circumstances of no unfrequent occurrence; 1. when there is an attack of fever and increased inflammation, and 2. when a scab forms underneath the eschar. In both cases we must relinquish our attempt to form an adherent eschar for a time,—apply the poultice,—and recur to the caustic in the course of a few days.

In the beginning of my trials of the treatment of the ulcers by the caustic, I was repeatedly betrayed by the smooth appearance of the eschar, to think that all was going on well, when in fact a

scab was all along forming underneath. In these cases inflammation soon followed, and it was only by carefully and daily evacuating the fluid effused under the eschar that I at length succeeded in effecting an adherent eschar free from surrounding inflammation. This remark cannot be too often repeated.

CASE XXIX.

The peculiarity of the present case arose from neglect in evacuating the fluid effused under the eschar the day succeeding its formation, the consequence of which was that the edges of the eschar became raised all round,

without however being entirely detached.

Mr. Draper, aged 50, had a small irritable ulcer of the size of a horse-bean, upon the shin, of a month's duration, with surrounding inflammation to the extent of several inches. I applied the lunar caustic to form an eschar and protected it with gold-beater's skin.

On the following day, it appeared from the flatness of the surface, that the eschar was adherent; the inflammation remained as before.

On the next day the eschar was raised all round its borders, presenting

the appearance of an elevated ring. I made an opening in one point of this ring by a penknife and evacuated the fluid, and I again applied the caustic all round in order to give firmness to the edges of the eschar.

On the succeeding day an opening was made in the centre of the eschar and a little more fluid was evacuated.

This mode of treatment was continued daily for about a week, the inflammation gradually subsiding and the eschar becoming adherent and corrugated. In about three weeks, the patient thinking the sore quite well de-

tached the eschar; there was still, however, a minute ulcer left, which was touched with the caustic.

CASE XXX.

C. Cocking, aged 17, has an ulcer of the size of half-a-crown on the inner part of the knee, occasioned by an accident. He had been a month under surgical care in the country when he applied to me, but the ulcer continued without disposition to heal, and fungous; it had apparently been treated by a solution of sulphate of copper. I applied the lunar caustic over the surface of the sore and upon the surrounding skin.

On the following day, the eschar was unadherent and puffy, and on piercing it a little fluid escaped. The incision into the eschar was repeated three or four successive days, but the eschar still retained its puffy character; I therefore directed a poultice to be applied to remove it.

In two days the eschar was separated leaving the ulcer with its fungous appearance. I removed the fungous part by scissors, and directed the poultice to be applied and to be continued for two days. I then formed another eschar. This required a daily puncture for the evacuation of subjacent fluid,

for six days; it then remained adherent, and in about a fortnight it separated leaving the ulcerated surface healed. This patient was not at all confined.

CASE XXXI.

Mr. S. aged 30, had a sore two inches in length in the groin, the remains of a phagedenic ulcer. It had remained stationary a whole fortnight under the ordinary treatment by bandage. I applied the lunar caustic to form an eschar and then the gold-beater's skin.

The day afterwards, I found the eschar incomplete and I applied the

caustic again. The eschar was still incomplete on the following day, and the caustic was again required to be applied to the denuded parts.

On examination two days afterwards I found the eschar complete and adherent.

On the fourth following day, great part of the eschar had separated leaving the ulcer healed, and I had no occasion to see the patient again.

IV. OF SOME ANOMOLOUS CASES.

1. *Of Whitlow.*

The lunar caustic is very useful in the treatment of this painful affection. Patients seldom apply to the surgeon before suppuration has taken place. It is then, I think, the best plan to open the abscess freely, to apply the caustic well within the cavity, and then to envelope the part by the cold poultice and lotion. In this manner the pain and irritation are almost immediately removed, after the smart of the caustic has subsided. A second application is

seldom necessary. In some cases, however, there is an increase of inflammation in a day or two, which requires the caustic to be again applied. When the inflammation has subsided, the loose cuticle may be removed, and the caustic must be applied to form an eschar.

In slight cases the lunar caustic may be passed over the inflamed part, and in this manner suppuration and the continuance of inflammation is often prevented.

In those cases in which the suppuration is artificial and attended with

severe diffused inflammation, the pus should be evacuated and a cold poultice applied for a day or two; for the too early application of the caustic would only add to this kind of inflammation; see p. 11; afterwards the skin may be removed, and if there be excoriations the caustic may be lightly applied.

2. Of Inflammation of the Finger.

The following case of inflammation of the finger occurred without any assignable cause.

CASE XXXI.

A young man, aged 18, came to me with a painful swelling of the middle

finger of the right hand; suspecting deep-seated abscess, I made a free incision and evacuated a little pus. I then applied the lunar caustic within the cavity and directed a cold poultice to be applied with lotion.

On the fourth day my patient had returned to his occupation as a dyer.

CASE XXXII.

Miss B. aged 23, had a slight scratch on the inside of the index finger, which issued in severe inflammation extending over the back of the hand. I made a free incision in the part first affected, evacuated a little pus, and directed a poultice to be applied.

On the following day, there was less pain but still great swelling at the back of the hand, which, I think, would have been removed had the caustic been used.

I now applied the caustic freely within the orifice.

On the following day there was less swelling and discharge.

Two days afterwards, the caustic was again applied, and in eight days from the first application of the caustic the hand was quite well.

3. *Of Fungous Ulcer of the Navel in Infants.*

It sometimes occurs that a little fungous sore exists upon the navel in infants which is difficult of cure in the ordinary way. I had one case which had subsisted for two years, and another, which had continued for two months, and were, during those periods, a source of great trouble and uneasiness to the mothers of the little patients. These ulcers are easily cured in the following manner.

The fungus is to be completely removed by a pair of scissors, and when the bleeding has quite ceased, the lunar

caustic is to be applied, and the part defended by the gold-beater's skin and kept carefully from any moisture.

In one of the cases mentioned above the eschar was accidentally separated twice and required to be renewed; but both cases were cured in the space of a few days.

4. *Of Inflammation of the Knee.*

Servant women, I suspect from much kneeling in scouring stairs, &c. are subject to a species of inflammation of the knee which is frequently extremely troublesome.

In one case suppuration of the integuments took place in the forepart of the knee, and the patient was obliged to leave her situation and go to her friends at a distance, although every antiphlogistic means was tried for her relief.

In two other cases, after the application of twenty leeches and the administration of an emetic and purgative medicine, I applied the lunar caustic freely over the whole surface of the knee previously moistened with water. In a few hours the cuticle was raised and vesicated; I evacuated a viscid puriform fluid, and I directed the constant application of the cold poultice and lotion.

In a few days all inflammation subsided and the patients remained well.

These three cases having occurred to me at the same time, and being apparently equally severe, I was enabled to judge of the efficacy of this use of the caustic, and I can strongly recommend it to a future and further trial. Its application causes more pain than a blister, but not so much as to form an obstacle to its employment.

It may not be unimportant, here, to suggest the trial of the caustic in other cases of inflammation, in which a more than usually active local remedy is required.

5. *Of Tinea Capitis, &c.*

In this place I have only to observe that I have in some cases completely succeeded, in others completely failed, in the cure of tinea capitis, by the lunar caustic. As I have not hitherto distinguished these cases from each other; and as I could only offer conjectures on the subject, I think it best to leave it for future inquiry.

The same observation applies to some other cutaneous affections which I need not specify more particularly at the present.

CHAPTER III.

OF SOME CASES IN WHICH THE CAUSTIC IS
INAPPLICABLE.

IT is by no means my intention to recommend the application of the lunar caustic as an infallible remedy for all local diseases. I am quite aware of the propensity, in recommending a favourite remedy, to extend its use beyond its true limits. The caustic, like all other remedies, requires to be employed with discrimination; and it is therefore my object in this little work, to state in which cases it is, and in

which cases it is not, useful and successful.

With this object, I have thought it not improper to add, in a concluding chapter, some observations on those cases in which I have found the lunar caustic to be inadmissible. It will, at the same time, be found that such cases, in the course of their treatment by the ordinary measures, not unfrequently become fit cases for the application of the caustic, with the view of more speedily completing the cure.

This observation is particularly applicable to the cases of burns, of large ulcers, of fungous ulcers, &c.

The caustic is inapplicable in extensive lacerations, for the same reason that it is so in extensive ulcers.

I have found the caustic of little use in incised wounds, and should not employ it except in such wounds received in dissection.

I have failed in my attempts to heal scrofulous sores by the adherent eschar; I would propose the trial with the lunar caustic and poultice.

In erysipelatous inflammation, where vesicles are formed, the caustic does injury, as in recent burns.

I have always found that the caustic has done injury in boils, aggravating rather than diminishing the affection.

1. *Of Burns.*

The application of the lunar caustic in recent burns or scalds, has always appeared to me to increase the inflammation and vesication, even inducing blisters where there were none before. The caustic must not, therefore, be applied in these cases, until the inflammation has entirely subsided ; but when there remains only a small superficial ulceration, the caustic may be passed lightly over the ulcerated sur-

face to form an eschar which is to be defended by the gold-beater's skin; for the affection is then reduced to the state of a common superficial ulcer. An adherent eschar is generally readily formed, and no further application is required. If the ulceration be more extensive and deeper, the lunar caustic may be applied, and the eschar treated, exactly as in common ulcers.

It may be well to illustrate these points, by the following cases.

CASE XXXIII.

A little girl, aged 10, scalded her breast a week ago and has treated it

with the ordinary remedies. There remained a superficial ulceration of the size of half-a-crown. I applied the lunar caustic lightly over the surface of the sore, and then the gold-beater's skin.

On the following day, an adherent eschar had formed, and in five days more it dropped off leaving the ulcer quite healed.

CASE XXXIV.

Mr. C. aged 51, scalded his leg ten days ago on the instep. He applied ointments and poultices. The surface remained ulcerated to the extent of

three inches in length and an inch and a half in breadth, and presented a considerable thick slough in the centre; the inflammation continued to be considerable with some œdema towards the toes. In such a case I should now recommend a cold poultice to be applied for several days; but the present case occurring early in my trials of the caustic, the latter remedy was applied forthwith over both the ulcer and slough.

On the following day I learnt that the pain after the application of the caustic had been considerable for two hours. It then ceased and the eschar became complete; and there was rather

less inflammation and swelling. The patient had kept in bed. I prescribed a pill with the hydrarg. submurias, to be followed by an aperient draught.

On the succeeding day my patient went down stairs and disturbed the eschar, and experienced more pain. The inflammation and swelling were still less. I applied the caustic to the parts of the ulcer exposed by the injury done to the eschar.

During the two following days the inflammation subsided entirely; I evacuated a little fluid from beneath the eschar.

On the next day the eschar appeared adherent, except in the centre which was occupied by the slough.

On the succeeding day, I evacuated a little fluid from beneath the slough.

On the next day I removed the slough entirely by means of a pair of scissors. The subjacent ulcer had a healthy granulated appearance. I applied the lunar caustic to it to form an eschar.

From this time it was necessary to evacuate a little fluid from under the eschar for ten successive days. It then

became adherent, and in about a fortnight it separated, leaving the ulcer healed.

CASE XXXV.

The following case will present a specimen of my trials of the lunar caustic in larger ulcers.

Anthony Knowles, aged 44, was kicked by a horse on the leg, above the inner ankle, two years ago. The part has never healed, but still remains in the state of an open ulcer, attended by some inflammation. When I first saw this ulcer it was about two inches in

diameter and nearly circular, with high edges, a surface of a greenish colour, and without any healthy granulations. I applied the lunar caustic to form an eschar.

The pain from the caustic was severe for several hours. An eschar had formed round the edges, but in the middle part it was quite wanting; the inflammation surrounding the ulcer had abated, and the green hue of its surface had disappeared. I reapplied the caustic in the central part.

On the following day the eschar appeared tolerably complete in the centre

but had separated at one part of the circumference. I again applied the caustic to the defective part.

On the following day the eschar was defective in several parts, but the inflammation was quite removed, there was no pain, and there had been less smarting after each successive application of the caustic. I again applied the caustic.

On the succeeding day, I learnt that my patient had been intoxicated, and I found the ulcer attended by inflammation. The eschar was by no means complete; some part of it was in a de-

tached state. I removed the loose portions and repeated the application of the caustic.

This sort of treatment was continued for a fortnight without my being able to effect the formation of a complete eschar. I therefore relinquished the idea of healing the ulcer by the adherent eschar; I eventually succeeded in doing so by applying the caustic every third day and the poultice continually, and I had hopes that the cure might be permanent, but he made application to me in two years afterwards with a similar ulcer on the same part.

In another similar case, I removed the elevated hard edges of the ulcer by the lancet, and then tried the caustic, without better success.

CASE XXXVI.

The last case I have to give is one of great interest, as it clearly shows the influence of the lunar caustic in subduing the inflammation surrounding ulcerations, and in promoting the healing process, even in cases of phagedenic ulcer. In such cases its influence eminently deserves a still further trial.

Mrs. H. aged 56, has had very extensive phagedenic ulcerations on the

legs and thighs during three years, which began in little red spots and then spread rapidly, destroying the integuments. One of these ulcers, on the thigh, was twelve inches in length and five in breadth, and exhibited the appearance of a deep corroding furrow; it was surrounded by a fiery redness and was attended by extreme pain. There were many other ulcers of the same kind, several nearly of the same magnitude; and the poor patient was compelled to take large doses of laudanum several times in the day. She had formerly been treated for syphilis, and had afterwards taken the sarsaparilla freely; amongst a great variety of local appli-

cations, the white bread poultice had afforded most relief.

I applied the lunar caustic to two of the smaller ulcers.

On the following day the eschars were complete. I applied the caustic to the large sore above described to the extent of three inches square, avoiding its application on the inflamed skin.

On the next day I found the eschar last made complete, and I passed the caustic over the ulcer to the extent of three inches more.

On the succeeding day, the eschar was complete, adherent at those edges which adjoined the cuticle, and floating at the other edges over the ulcer, and in the latter part allowing the escape of matter; round the adherent edges of the eschar the inflammation had entirely disappeared, while it remained fiery as before round every other part of the ulcer.

I continued my trials with the caustic in this case, but it gave so much pain, and I had so little hope of final success, that I altogether relinquished the attempt to treat these ulcers by eschar. Some of the small ulcers

were healed, however, and the larger one assumed a more healthy character wherever the caustic had been applied. It may, therefore, remain a question whether the lunar caustic may not still prove useful in phagedenic ulcers of a smaller size.

FINIS.

THE LUNAR CAUSTIC.

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