

On Ulcers

Hippocrates

Translated by Francis Adams

ON ULCERS

We must avoid wetting all sorts of ulcers except with wine, unless the ulcer be situated in a joint. For, the dry is nearer to the sound, and the wet to the unsound, since an ulcer is wet, but a sound part is dry. And it is better to leave the part without a bandage unless a cataplasm be applied. Neither do certain ulcers admit of cataplasms, and this is the case with the recent rather than the old, and with those situated in joints. A spare diet and water agree with all ulcers, and with the more recent rather than the older; and with an ulcer which either is inflamed or is about to be so; and where there is danger of gangrene; and with the ulcers an inflammation in joints; and where there is danger of convulsion; and in wounds of the belly; but most especially in fractures of the head and thigh, or any other member in which a fracture may have occurred. In the case of an ulcer, it is not expedient to stand; more especially if the ulcer be situated in the leg; but neither, also, is it proper to sit or walk. But quiet and rest are particularly expedient. Recent ulcers, both the ulcers themselves and the surrounding parts, will be least exposed to inflammation, if one shall bring them to a suppuration as expeditiously as possible, and if the matter is not prevented from escaping by the mouth of the sore; or, if one should restrain the suppuration, so that only a small and necessary quantity of pus may be formed, and the sore may be kept dry by a medicine which does not create irritation. For the part becomes inflamed when rigor and throbbing supervene; for ulcers then get inflamed when suppuration is about to form. A sore suppurates when the blood is changed and becomes heated; so that becoming putrid, it constitutes the pus of such ulcers. When you seem to require a cataplasm, it is not the ulcer itself to which you must apply the cataplasm, but to the surrounding parts, so that the pus may escape and the hardened parts may become soft. Ulcers formed either from the parts having been cut through by a sharp instrument, or excised, admit of medicaments for bloody wounds (*'enaima*), and which will prevent suppuration by being desiccant to a certain degree. But, when the flesh has been contused and roughly cut by the weapon, it is to be so treated that it may suppurate as quickly as possible; for thus the inflammation is less, and it is necessary that the pieces of flesh which are bruised and cut should melt away by becoming putrid, being converted into pus, and that new flesh should then grow up. In every recent ulcer, except in the belly, it is expedient to cause blood to flow from it abundantly, and as

may seem seasonable; for thus will the wound and the adjacent parts be less attacked with inflammation. And, in like manner, from old ulcers, especially if situated in the leg, in a toe or finger, more than in any other part of the body. For when the blood flows they become drier and less in size, as being thus dried up. It is this (the blood?) especially which prevents such ulcers from healing, by getting into a state of putrefaction and corruption. But, it is expedient, after the flow of the blood, to bind over the ulcer a thick and soft piece of sponge, rather dry than wet, and to place above the sponge some slender leaves. Oil, and all things of an emollient and oily nature, disagree with such ulcers, unless they are getting nearly well. Neither does oil agree with wounds which have been recently inflicted, nor yet do medicines formed with oil or suet, more especially if the ulcer stands in need of more cleansing. And, in a word, it is in summer and in winter that we are to smear with oil these sores that require such medicines.

2. Gentle purging of the bowels agrees with most ulcers, and in wounds of the head, belly, or joints, where there is danger of gangrene, in such as require sutures, in phagedaenic, spreading and in otherwise inveterate ulcers. And when you want to apply a bandage, no plasters are to be used until you have rendered the sore dry, and then indeed you may apply them. The ulcer is to be frequently cleaned with a sponge, and then a dry and clean piece of cloth is to be frequently applied to it, and in this way the medicine which it is supposed will agree with it is to be applied, either with or without a bandage. The hot season agrees better than winter with most ulcers, except those situated in the head and belly; but the equinoctial season agrees still better with them. Ulcers which have been properly cleansed and dried as they should be, do not usually get into a the state. When a bone has exfoliated, or has been burned, or sawed, or removed in any other way, the cicatrices of such ulcers become deeper than usual. Ulcers which are not cleansed, are not disposed to unite if brought together, nor do the lips thereof approximate of their own accord. When the points adjoining to an ulcer are inflamed, the ulcer is not disposed to heal until the inflammation subside, nor when the surrounding parts are blackened by mortification, nor when a varix occasions an overflow of blood in the part, is the ulcer disposed to heal, unless you bring the surrounding parts into a healthy condition.

3. Circular ulcers, if somewhat hollow, you must scarify all along their edges, or to the extent of half the circle, according to the natural stature of the man. When erysipelas supervenes upon any sore, you must purge the body, in the way

most suitable to the ulcer, either upward or downward. When swelling arises around an ulcer, and if the ulcer remain free from inflammation, there will be a deposit of matter in process of time. And whatever ulcer gets swelled along with inflammation and does not subside as the other parts subside which became inflamed and swelled at the same time, there is a danger that such an ulcer may not unite. When from a fall, or in any other way, a part has been torn or bruised, and the parts surrounding the ulcer have become swelled, and, having suppurated, matter flows from the swelling by the ulcer, if in such cases a cataplasm be required, it should not be applied to the sore itself, but to the surrounding parts, so that the pus may have free exit, and the indurated parts may be softened. But when the parts are softened as the inflammation ceases, then the parts which are separated are to be brought toward one another, binding on sponges and applying them, beginning from the sound parts and advancing to the ulcer by degrees. But plenty of leaves are to be bound above the sponge. When the parts are prevented from coming together by a piece of flesh full of humors, it is to be removed. When the ulcer is deep seated in the flesh, it is swelled up, both from the bandaging and the compression. Such an ulcer should be cut up upon a director (specillum) if possible, at the proper time, so as to admit a free discharge of the matter, and then the proper treatment is to be applied as may be needed. For the most part, in every hollow ulcer which can be seen into which can be seen into direct without being any swelling present, if there be putrefaction in it, or if the flesh be flabby and putrid, such an ulcer, and the parts which surround it, will be seen to be black and somewhat livid. And of corroding ulcers, those which are phagedaenic, spread and corrode most powerfully, and, in this case, the parts surrounding the sore will have a black and sub-livid appearance.

4. Cataplasms for swellings and inflammation in the surrounding parts. Boiled mullein, the raw leaves of the trefoil, and the boiled leaves of the epipetrum, and the poley, and if the ulcer stand in need of cleansing, all these things also cleanse; and likewise the leaves of the fig-tree, and of the olive, and the horehound, all these are to be boiled; and more especially the chaste-tree, and the fig, and the olive, and the leaves of the pomegranate are to be boiled in like manner. These are to be used raw: and the leaves of the mallow pounded with wine, and the leaves of rue, and those of the green origany. With all these, linseed is to be boiled up and mixed by pounding it as a very fine powder. When there is danger of erysipelas seizing the ulcers, the leaves of woad are to be pounded and

applied raw in a cataplasm along with linseed, or the linseed is to be moistened with the juice of strychnos or of woad, and applied as a cataplasm. When the ulcer is clean, but both it and the surrounding parts are inflamed, lentil is to be boiled in wine and finely triturated, and, being mixed with a little oil, it is to be applied as a cataplasm; and the leaves of the hip-tree are to be boiled in water and pounded in a fine powder and made into a cataplasm; and apply below a thin, clean piece of cloth wetted in wine and oil; and when you wish to produce contraction, prepare the leaves of the hip-tree like the lentil, and the cress; wine and finely-powdered linseed are to be mixed together. And this is proper: linseed, and raw chaste-tree, and Melian alum, all these things being macerated in vinegar.

5. Having pounded the white unripe grape in a mortar of red bronze, and passed it through the strainer, expose it to the sun during the day, but remove it during the night, that it may not suffer from the dew; rub it constantly during the day, so that it may dry equally, and may contract as much virtue as possible from the bronze: let it be exposed to the sun for as great a length of time as till it acquire the thickness of honey; then put it into a bronze pot with the fresh honey and sweet wine, in which turpentine resin has been previously boiled, boil the resin in the wine until it become hard like boiled honey; then take out the resin and pour off the wine: there should be the greatest proportion of the juice of unripe grape, next of the wine, and third of the honey and myrrh, either the liquid (stacte) or otherwise. The finest kind is to be levigated and moistened by having a small quantity of the same wine poured on it; and then the myrrh is to be boiled by itself, stirring it in the wine; and when it appears to have attained the proper degree of thickness, it is to be poured into the juice of the unripe grape; and the finest natron is to be toasted, and gently added to the medicine, along with a smaller quantity of the flowers of copper (flos aeris) than of the natron. When you have mixed these things, boil for not less than three days, on a gentle fire made with fuel of the fig-tree or with coals, lest it catch fire. The applications should all be free from moisture, and the sores should not be wetted when this medicine is applied in the form of liniment. This medicine is to be used for old ulcers, and also for recent wounds of the glans penis, and ulcers on the head and ears. Another medicine for the same ulcers:-The dried gall of an ox, the finest honey, white wine, in which the shavings of the lotus have been boiled, frankincense, of myrrh an equal part, of saffron an equal part, the flowers of copper, in like manner of liquids, the greatest proportion of wine, next of honey, and least of the gall.

Another:-Wine, a little cedar honey, of dried things, the flowers of copper, myrrh, dried pomegranate rind. Another:-Of the roasted flower of copper half a drachm, of myrrh two half-drachms, of saffron three drachms, of honey a small quantity, to be boiled with wine. Another:-Of frankincense a drachm, of gall a drachm, of saffron three drachms; let each of these be dried and finely levigated, then, having mixed, triturate in a very strong sun, pouring in the juice of an unripe grape, until it become of a gelatinous consistence, for three days; then let them be allowed to macerate in an austere, dark-colored, fragrant wine, which is gradually poured upon them. Another:-Boil the roots of the holmoak in sweet white wine; and when it appears to be properly done, having poured off two parts of the wine, and of the lees of wine as free of water as possible one part; then boil, stirring it, so that it may not be burnt, at a gentle fire, until it appear to have attained the proper consistence. Another:-The other things are to be the same; but, notwithstanding, instead of the wine, use the strongest white vinegar, and dip into it wool as greasy as can be procured, and then, moistening it with the lees of oil, boil, and pour in the juice of the wild fig-tree, and add Melian alum, and natron, and the flowers of copper, both toasted. This cleanses the ulcers better than the former, but the other is no less desiccant. Another:-Dip the wool in a very little water; and then, having added a third part of wine, boil until it attain the proper consistence. By these, recent ulcers are most speedily prevented from getting into a state of suppuration.

6. Another:-Sprinkle on it dried wakerobin, and add the green bark of the fig-tree, pounding it in the juice: do this with or without wine, and along with honey. Another:-Boiling the shavings of lotus with vinegar (the vinegar should be white); then mix the lees of oil and raw tar-water, and use it as a liniment or wash, and bandage above. These things in powder prevent recent wounds from suppurating, or they may be used for cleansing the sore along with vinegar, or for sponging with wine.

7. Another:-Sprinkle (on the sore?) lead finely triturated with the recement of copper; and sprinkle on it, also, the shavings of lotus, and the scales of copper, and alum, and chalcitis, with copper, both alone, and with the shavings of lotus. And otherwise, when it is wanted to use these in a dry state, do it with the Illyrian spodos triturated with the shavings, and with the shavings alone. And the flowers of silver alone, in the finest powder; and birthwort, when scraped and finely pounded, may be sprinkled on the part. Another, for bloody sores myrrh, frankincense, galls, verdigris the roasted flower of copper, Egyptian alum roasted,

vine flowers, grease of wool, plumbago, each of these things is to be diluted, in equal proportions, with wine like the former. And there is another preparation of the same:-The strongest vinegar of a white color, honey, Egyptian alum, the finest natron; having toasted these things gently, pour in a little gall; this cleanses fungous ulcers, renders them hollow, and is not pungent. Another:-The herb with the small leaves, which gets the name of *Parthenium parviflorum*, and is used for removing thymia (warts?) from the glans penis, alum, chalcitis, a little crude Melian alum (?); sprinkle a little dried elaterium, and a little dried pomegranate rind in like manner.

8. The herb which has got the name of *lagopyrus*, fills up hollow and clean ulcers; (when dried it resembles wheat; it has a small leaf like that of the olive, and more long;) and the leaf of horehound, with oil. Another:-The internal fatty part, resembling honey, of a fig much dried, of water two parts, of linseed not much toasted and finely levigated, one part. Another:-Of the dried fig, of the flower of copper levigated a little, and the juice of the fig. The preparation from dried fig:-The black chamaeleon, the dried gall of an ox, the other things the same. Of the powders:-Of the slender cress in a raw state, of horehound, of each equal parts; of the dried fig, two parts; of linseed, two parts; the juice of the fig. When you use any of these medicines, apply above it compresses wetted in vinegar, apply a sponge about the compresses and make a If the surrounding parts be in an inflamed state, apply to them any medicine which may appear suitable.

9. If you wish to use a liquid application, the medicine called *caricum* may be rubbed in, and the bandages may be applied as formerly described upon the same principle. The medicine is prepared of the following ingredients:-Of black hellebore, of sandarach, of the flakes of copper, of lead washed, with much sulphur, arsenic, and cantharides. This may be compounded so as may be judged most proper, and it is to be diluted with oil of juniper. When enough has been rubbed in, lay aside the medicine, and apply boiled wakerobin in a soft state, either rubbing it in dry, or moistening it with honey. But if you use the *caricum* in a dry state, you must abstain from these things, and sprinkle the medicine on the sore. The powder from hellebore and sandarach alone answers. Another liquid medicine:-The herb, the leaf of which resembles the arum (*wakerobin*) in nature, but is white, downy, of the size of the ivy-leaf: this herb is applied with wine, or the substance which forms upon the branches of the *ilex*, when pounded with wine, is to be applied. Another:-The juice of the grape, the strongest vinegar, the flower of

copper, natron, the juice of the wild fig-tree. Alum, the most finely levigated, is to be put into the juice of the wild grape, and it is to be put into a red bronze mortar and stirred in the sun, and removed when it appears to have attained proper consistence.

10. These are other powders:-Black hellebore, as finely levigated as possible, is to be sprinkled on the sore while any humidity remains about it, and while it continues to spread. The bandaging is the same as when plasters are used. Another, in like manner:-The driest lumps of salt are to be put into a copper, or earthen pot, of equal size, as much as possible, and not large, and the finest honey, of double the size of the salt, as far as can be guessed, is to be poured upon the lumps of salt, then the vessel is to be put upon coals and allowed to sit there until the whole is consumed. Then, having sponged the ulcer and cleansed it, bandage it as before, and compress it a little more. Next day, wherever the medicine has not been taken in, sprinkle it on, press it down, and bandage. But when you wish to remove the medicine, pour in hot vinegar until it separate, and again do the same things, sponging it away, if necessary. Another corrosive powder:-Of the most finely-levigated misy, sprinkle upon the moist and gangrenous parts, and a little of the flower of copper, not altogether levigated. Another powder equally corrosive:-Having sponged the ulcer, burn the most greasy wool upon a shell placed on the fire until the whole be consumed; having reduced this to a fine powder, and sprinkled it on the sore, apply the bandage in the same manner. Another powder for the same ulcers:-The black chamaeleon, when prepared with the juice of the fig. It is to be prepared roasted, and alkanet mixed with it. Or, pimpernel, and Egyptian alum roasted, and sprinkle on them the Orchomenian powder. For spreading ulcers:-Alum, both the Egyptian roasted, and the Melian; but the part is to be first cleansed with roasted natron and sponged; and the species of alum called chalcitis roasted. It is to be roasted until it catch fire.

11. For old ulcers which occur on the fore part of the legs; they become bloody and black:-Having pounded the flower of the melilot and mixed it with honey, use as a plaster. For nerves (tendons?) which have been cut asunder:-Having pounded, sifted, and mixed with oil the roots of the wild myrtle, bind on the part; and the herb cinquefoil (it is white and downy, and more raised above the ground than the black cinquefoil), having pounded this herb in oil bind it on the part, and then remove it on the third day.

12. Emollients (?):-These medicines are to be used in winter rather than in summer. Emollient medicines which make the cicatrices fair:-Pound the inner mucous part of the squill and pitch, with fresh swine's seam, and a little oil, and a little resin, and ceruse. And the grease of a goose, fresh swine's seam, and squill, and a little oil. The whitest wax, fresh clean grease, or squill and white oil, and a little resin. Wax, swine's seam (old and fresh), and oil, and verdigris, and squill and resin. Let there be two parts of the old grease to the fresh, and of the other things, q. s. Having melted the grease that is fresh, pour it into another pot; having levigated plumbago finely and sifted it, and mixed them together, boil and stir at first; boil until when poured upon the ground it concretes; then taking it off the fire, pour it all into another vessel, with the exception of the stony sediment, and add resin and stir, and mix a little oil of juniper, and what has been taken off. In all the emollient medicines to which you add the resin, when you remove the medicine from the fire, pour in and mix the resin while it is still warm. Another:-Old swine's seam, wax, and oil, the dried shavings of the lotus, frankincense, plumbago,-namely, of the frankincense one part, and of the other one part, and of the shavings of the lotus one part; but let there be two parts of the old grease, one of wax, and of fresh swine's seam one part. Another:-Or old swine's seam along with the fresh grease of a goat; when cleaned, let it retain as little as possible of its membrane: having triturated or pounded it smooth, pour in oil, and sprinkle the lead with the spodium and half the shavings of the lotus. Another:-Swine's seam, spodium, blue chalcitis, oil.

13. For Burns:-You must boil the tender roots of the ilex, and if their bark be very thick and green, it must be cut into small parts, and having poured in white wine, boil upon a gentle fire, until it appear to you to be of the proper consistence, so as to be used for a liniment. And it may be prepared in water after the same manner. Another, not corrosive:-Old swine's seam is to be rubbed in by itself, and it is to be melted along with squill, the root of which is to be divided and applied with a bandage. Next day it is to be fomented; and having melted old swine's seam and wax, and mixed with them oil, frankincense, and the shavings of lotus and vermilion, this is to be used as a liniment. Having boiled the leaves of the wakerobin in wine and oil, apply a bandage. Another:-When you have smeared the parts with old swine's seam let the roots of asphodel be pounded in wine and triturated, and rubbed in. Another:-Having melted old swine's seam, and mixed with resin and bitumen, and having spread it on a piece of cloth and warmed it at

the fire, apply a bandage. When an ulcer has formed on the back from stripes or otherwise, let squill, twice boiled, be pounded and spread upon a linen cloth and bound on the place. Afterward the grease of a goat, and fresh swine's seam, spodium, oil, and frankincense are to be rubbed in.

14. Swellings which arise on the feet, either spontaneously or otherwise, when neither the swellings nor the inflammation subside under the use of cataplasms, and although sponges or wool, or anything else be bound upon the sound part; but the swelling and inflammation return of themselves again, an influx of blood into the veins is the cause, when not occasioned by a bruise. And the same story applies if this happen in any other part of the body. But blood is to be abstracted, especially the from the veins, which are the seat of the influx, if they be conspicuous; but if not, deeper and more numerous scarifications are to be made in the swellings; and whatever part you scarify, this is to be done with the sharpest and most slender instruments of iron. When you have removed the blood, you must not press hard upon the part with the specillum, lest you produce contusion. Bathe with vinegar, and do not allow a clot of blood to remain between the lips of the wounds, and having spread greasy wool with a medicine for bloody wounds, and having carded the woof and made it soft, bind it on, having wetted it with wine and oil. And let the scarified part be so placed that the determination of the blood may be upward and not downward; and do not wet the part at all, and let the patient be put upon a restricted diet and drink water. If upon loosing the bandages you find the scarifications inflamed, apply a cataplasm of the fruit of the chaste-tree and linseed. But if the scarifications become ulcerated and break into one another, we must be regulated by circumstances, and otherwise apply whatever else appears to be proper.

15. When a varix is on the fore part of the leg, and is very superficial, or below the flesh, and the leg is black, and seems to stand in need of having the blood evacuated from it, such swellings are not, by any means, to be cut open; for, generally, large ulcers are the consequence of the incisions, owing to the influx from the varix. But the varix itself is to be punctured in many places, as circumstances may indicate.

16. When you have opened a vein and abstracted blood, and although the fillet be loosed the bleeding does not stop, the member, whether the arm or leg, is to be put into the reverse position to that from which the blood flows; so that the

blood may flow backward, and it is to be allowed to remain in this position for a greater or less space of time. Then bind up the part while matters are so, no clots of blood being allowed to remain in the opening. Then having applied a double compress, and wetted it with wine, apply above it clean wool which has been smeared with oil. For, although the flow of blood be violent, it will be stopped in this way. If a thrombus be formed in the opening, it will inflame and suppurate. Venesection is to be practiced when the person has dined more or less freely and drunk, and when somewhat heated, and rather in hot weather than in cold.

17. When in cupping, the blood continues to flow after the cupping-instrument has been removed, and if the flow of blood, or serum be copious, the instrument is to be applied again before the part is healed up, so as to abstract what is left behind. Otherwise coagula of blood will be retained in the incisions and inflammatory ulcers will arise from them. In all such cases the parts are to be bathed with vinegar, after which they are not to be wetted; neither must the person lie upon the scarifications, but they are to be anointed with some of the medicines for bloody wounds. When the cupping instrument is to be applied below the knee, or at the knee, it should be done, if possible, while the man stands erect.