GIGGS, OR FLAPS.

Horses are frequently troubled with this disease, which begins with little swellings or bladders, and sometimes small and hard lumps, that grow, on the inside of the lips and palate, particularly along the sides of the tongue, and they spread in the same manner, with cankerous appearances in other parts. This disorder is so painful that horses will frequently become incapable of taking any nourishment, in consequence of not being able to chew their food, or will let it instantly fall out of their mouth. These symptoms are so high as to become alarming: producing loss of appetite, and consequently of flesh and strength. If the case is not discovered in proper time, debility will increase, and if the animals continue their work in this languid state, death will soon put an end to their existence.*

* There is a kind of hay which is very much infected with a sort of grass, called the squirrel tails, which is extremely dangerous, in consequence of cutting and producing ulcers of considerable size in the mouth of horses, so that if their mouth are not frequently inspected and cleaned from it, they will get into their gums and tongues, and will make them so sore as to prevent the animals from feeding any longer, and thus will become so weak, as to render them incapable of continuing their work, if proper attention is not paid to remove the cause that produces the mischief.
The cause of this disorder may be referred to a disordered stomach, glotis or epiglotis, or wind-pipe or lungs; also, in consequence of diseases that had previously existed, or of having taken corrosive medicines, in too large doses. Bad unwholesome forage will frequently produce giggis, and cankers in the mouth also.

The method of cure is to begin first, to open the giggis with a lancet, and washing them afterwards with salt and water and vinegar, equal quantities. If the disorder assumes a cankerous appearance, which is known by little white specks that spread into regular ulcers, they may be touched with the actual cautery, made purposely to correspond with the size of those ulcers, then wash the mouth with tincture of myrrh and vinegar, equal quantities of each, and honey of roses as much as you please. When the cauterised parts slough off, the sores must be washed with a solution of allum, vinegar and honey: Or, take honey of roses, sharpened with the acid of vitriol, either of these will be sufficient to cure cankers, and every other ulcer in the mouth.

If the disorder be suspected to originate from a vitiated constitution, a gentle purgative or two, and a few antiseptic balls of bark, camphor, and other antiseptic medicines, recommended in mortifications, will be necessary also.
GLANDERS.

The glanders is a disorder that may be properly called the reproach of the veterinary art, the moderns as well as the antients; for the disorder was well known even before the time of Colomella, and others of the most ancient veterinary writers; and yet no rational method of cure has been discovered for it, and indeed the number of receipts which are found in their books, afford us a strong proof of their deficiency.

Although there may be many steps to ascend before we are able to combat this infectious disorder in horses, with as much success as the venereal disease is treated in the human subject; yet we ought by no means to relinquish our attempts should they be so unfortunate as to prove so ineffectual. Had those who practise on the maladies of the human species been so discouraged by the failure of these experiments, and given it up as a hopeless undertaking, it would have been unfortunate indeed; but, by their perseverance, every difficulty has been surmounted, and many diseases are now successfully cured, which was thought formerly incurable.
The difficulty of curing the glanders may originate from several causes; perhaps from the cautious practice of those who have a character to lose, or the more hazardous attempts of men who have one to establish; to which may be added the credulity, impatience, ignorance, or despair, which lead men to try all sorts of remedies for its removal. These causes, I say, may perhaps sufficiently account for its having remained incurable to this day.

The glanders has been considered in its origin, progress and symptoms, to resemble the venereal disease in the human subject. But this is not the case; because the venereal poison never takes place without the morbid matter of one sex’s coming into contact with the other, and never only by living with disordered people in the same house. But it is well known, that the glanders is communicated from one horse to a hundred others, or more, without ever being in contact with each other, which gives us reason to suppose, that the two disorders differ materially, since the venereal never can take place without impure connections. But the glanders originate nine times out of ten, from the poisonous effluvia which are emitted from the lungs, dung or urine; impure and confined air of close stables, &c. &c. where glandered horses are allowed to stand.
Notwithstanding the failures and discouragements of our predecessors, it gives me great pleasure to say, that it is now in my power to offer the public some favorable intelligence on this important subject. But in order to proceed gradually, it will be necessary to explain the nature and seat of this dreadful disorder. First, I shall observe, that the contagion attacks all horses exposed to its poisonous influence, very few excepted; but experience demonstrates, that those who are at large in a field are not so soon attacked; while those that are confined in warm stables, without a free air, seldom escape the disease.

The infection is sooner caught, and the ravages of it are more rapid, during the heat of summer, than winter. It is obvious, that the animal which receives the infection in its last stage of malignancy, will live less time than one that has caught the disease from a subject, where the virus was less active. Some live three months, some three years, and longer, with it. When a horse is taken with the glanders, the first symptom observable is a swelling about the nostrils, and a discharge of slimy humour, attended with a swelling of one, and sometimes both glands under the jaw. The humour running at the nose appears more or less thick, and of a different colour as the disorder increases.
GLANDERS.

But it is worthy of remark, that the differences of colour cannot be looked upon as a certain characteristic sign of the glanders, since the same symptoms are observable in a cold, strangles, inflammation, and all other diseases of the lungs and wind-pipe; also consumption, proceeding from farcy, &c. The matter discharged from the nose, from farcy, however, will produce the glanders.

It is remarkable, that the virus of the glanders does not produce, in the beginning, any visible alteration in the system. The horse taken with it never, or very seldom, shows any signs of illness; his appetite is good, all the secretions are regular, he is capable of doing his work as before, and he is as lively as ever he was: It is this apparent state of health, which, in part, confirms the existence of the disorder; it being in the last stage only that the animal's decline is visible.

So far as observations entitle me to offer my judgment, I can aver with propriety, that there are only two sorts of glanders; and I heartily condemn the ridiculous belief of adopting six or seven sorts, as has been advanced by several authors;* which neither the case nor circumstances will admit. But the fact is, that

* See Lafosse on the Glanders.
the disorder may be divided into two states; the one chronic, and the other acute. The first is easily distinguished, the running at the nose being but trifling, and of a very fine transparent colour, and no ulcers observable; whilst in the second case, or acute stage, the running and ulcers in the nose are often numerous, and have a very offensive smell; the swellings under the jaw, for the most part small and very hard, with little or no pain when they are pressed, and the bones of the nose and head carious, in consequence of the stagnation and acrimony of the putrid matter confined in their sinusses or cavities; in the last stage of the disorder, the lungs and abdominal viscera are often found ulcerated; great difficulty is also experienced in respiration, the discharge from the nose becomes immense, and the legs swell; in this state the animal wastes away until death. This sort of glanders often makes its appearance in one night, and its symptoms are so formidable as to swell the head and legs to an enormous size, the inside of the nostrils becoming full of ulcers, and resembling putrid liver in the course of twenty-four hours after; in short, this infectious disorder is so violent, and its ravages so rapid, that it destroys the animal in twelve or fifteen days, or less; in this state the sooner the infected horse is shot, the better.
ASSES and mules are liable to catch the glanders when exposed to its influence, and it may be introduced among oxen and many other quadrupeds, by inoculation or transfusion. *

Among the causes of this disorder, none are more prominent than sudden changes of temperature, as is the case with horses of cavalry regiments, they being very often exposed to the inclemencies of the seasons, when in camp, particularly in bad weather; and being confined in one spot, they are prevented from supporting the general standard of heat so necessary to health.

The other causes that may produce the glanders, are the following, viz.—First, violent colds long neglected. Secondly, the respiration of foul air in close stables, or in the holds of shipping. Thirdly, the strangles, too long neglected or improperly treated. Fourthly, the farcy, and the matter of this disorder applied to the nostrils of a sound horse. Fifthly, letting the animal stand in a current of cold air, or drink too much cold water in a state of perspiration, particularly those horses that have had the bad habit of immersing their nostrils very deep into the water when they drink; the effect of cold water, continued too long, may produce an inflammation

* Transfusion signifies the letting the blood of one animal out, so as to be immediately received by another, while it is in its fluid state.
of the pituitary, or membrane that lines the cavity of the nostrils capable of giving rise to this disorder.

The symptoms. As the glanders are equally fatal and contagious, great attention ought to be paid to any discharge which may be perceived from the nostrils, or any swelling of the glands under the jaw; for one of these circumstances does not invariably precede the other. Colds and strangles, for example, may be mistaken, by persons unaccustomed with the nature of the diseases of horses, for the glanders; in the former complaints, there is always some degree of fever, a dullness about the eyes, and loss of appetite. In the glanders none of these symptoms occur, except in the latest stages of the disorder; in colds, and in the strangles, the lymphatic glands under the jaw are very painful to the touch, increase rapidly in bulk, and may be brought without difficulty to suppuration; in the glanders, they are nearly insensible, and seldom grow larger than a walnut. The running at the nose from a cold is usually from both nostrils, in great quantities, and of a healthy colour and consistence, and has no offensive smell; but the discharge, in consequence of the glanders, is originally very small in quantity, soon acquires a strong and disagreeable smell and colour, and is frequently confined to one side of
the head only; the swelling under the jaw, always being confined to that side of the nose only that is affected. These symptoms make some of the most characteristic signs of the glanders.

Having given a summary view of this disease, its nature, symptoms, causes, &c. it remains now to shew the necessity of making continual and decisive experiments on glandered horses, with the hope that this opprobrium of the veterinary art will sooner or later be removed.—
To effect this, therefore, it is of importance to know what treatment should be adopted; and also, what has been lately attempted by myself on several glandered horses, with some appearance of success, in the thirteenth, as well as in the twelfth regiments of light dragoons, where I have now the honour to serve as veterinary surgeon.

An erroneous opinion prevailed among the old school, that the glanders was merely a local disease, confined to the head only, and that it might be removed by local treatment; such as the operation of trepanning, and laying open the different sinuses of the head, which was afterwards to be injected with different astringents, liquid, &c. But this opinion, with many others as ridiculous, no longer exists; we are now perfectly convinced, that the disorder is not local, but
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cstitutional; consequently, it must be comb- bated with internal, as well as local remedies. We cannot, therefore, be surprised to see all former endeavours to cure failing in the at- tempt. If the disorder is recent, and the ani- mal full of flesh, it will be necessary to bleed pretty largely, and immediately after give a gentle dose of purging physic; but if the glan- ders already assume a state of virulence, the bleeding and purging must be avoided, as it would serve rather to promote, than to pre- vent the disease, as bleeding and purging would considerably increase the action of the absorb- ent vessels, and introduce the virus of the glanders farther into the system; a consequence always to be guarded against.

To obviate this occurrence, and counteract its tendency as much as possible, give the fol- lowing ball once or twice a-day: Take subli- mate corrosive two ounces, ginger powder three ounces, camphor an ounce and a half, anisated balsam of sulphur, a sufficient quantity to mix the whole into a proper mass, to be divided into forty-eight balls.

The strength of this medicine is to be aug- mented according to its effect on the system; if there be no irritation caused by it, after giving one ball every day, then we may increase the dose of the sublimate, by degrees, to one drachm every day.
But if the intestines should become affected, so as to produce a purging, or to keep the animal off his food; in either case the balls must be discontinued, and after the symptoms subside, we may proceed as before, and to prevent the irritation the sublimate is apt to produce on the bowels, stomach, and kidneys, we must add half a drachm of opium in each ball.

The following will, in many instances of glanders, be found extremely efficacious, and perhaps in some instances preferable to the above; but this greatly depends on the state of the disease, and the constitution of the horse.

Take sublimate corrosive an ounce, opium half an ounce, tartar emetic six ounces, camphor four ounces, ginger powdered three ounces, anisated balsam of sulphur a sufficient quantity to form the mass; to be divided into sixteen balls, and given in the same manner as above. When the sublimate corrosive is used in this way, and with judgment, it will be found an invaluable medicine in the attempt to rescue this valuable animal from this most destructive, contagious, and infectious disorder in its recent stage.

During this treatment the greatest attention must be paid to the nostrils, which must be properly fomented with warm water, and afterwards common salt blown into them three times a day, taking all possible care not to scratch them.
Every necessary attention must be paid to the food, exercise, dressing, cleanliness, and water, which must always be warm, and mixed with bran or gruel. Should the animal be constive, it will be necessary to give a clyster of warm water now and then. Should the ulcers at the nose assume a considerable degree of virulence and malignity, the following injection must be made use of three times a day, viz. dissolve corrosive sublimate one drachm in an ounce of spirit of salt; keep the solution in a bottle, to be mixed in one gallon of the purest water. This injection must be thrown up the nose with a syringe for that purpose.

The reader will see by the following cases, that if the disorder of the glanders is attacked in its infancy, it will sometimes submit to the above treatment; but if it be arrived to the highest degree of virulence and malignity, it will increase in opposition to all art and every human endeavour, and it will be found necessary to take away a life, that every degree of assiduity and effort of art could not longer render worth preservation.

The following cases of glanders have been cured by the above treatment, and have been performed to the knowledge of every man and officer of the regiment, a circumstance sufficient I hope, to prevent any doubts arising as to the
truth of the case stated. In one horse the case was so bad, that the animal had been brought from the barracks into the field on a review day, in order to convince the general commanding the district,* that it was a confirmed glandered horse, and not a suspicious one, as some were ready to suppose.

Case First.

The 3d of August, 1805, I submitted three horses of Captain Westenra's troop to the same treatment, which failed of success in two of them, having every appearance of increasing in malignity, rather than yielding to the remedy, I therefore ordered them both to be shot, after being three weeks under cure. The third was preserved by following the same treatment till Nov. 15, following, when he was discharged from the hospital cured, and quite sound.

Case Second.

Two horses of Captain Bird's troop decidedly glandered, have been kept under the same treatment (except antimony was substituted for tartar emetic) one got well, and was discharged from the infirmary stables perfectly sound; but a month afterwards was sent back to me with every appearance of a relapse. I therefore submitted him again to take half a

* General Cartright.
drachm of sublimate; two drachms of antimony; four drachms of sulphur, mixed with anisated balsam of sulphur, twice a-day; by which treatment he got completely well, and has kept very healthy ever since.

The other appeared frequently better, the running at the nose ceasing most completely, and the enlargement of the gland being removed. But at the expiration of four months, the virus seemed to return again, in a slight degree; at first, he wasted away very much, and appeared quite weak, the swelling of the gland under the jaw increasing again in size and hardness. And as these symptoms became constant, and of a bad sort, it was thought best to kill him, in order to avoid further trouble and expence.

Case Third

Was a bay horse of Capt. Moreland's troop, aged seven years. He was first bled, and physicked; after which he began with tonic balls, composed of sublimate corrosive and antimony, &c. as recommended above, increasing by degrees to two balls a day the ensuing month; taking care to watch their effects, and leaving off or increasing the dose as circumstances seemed to require. By these precautions I have been able to make him take two balls a day for several successive days. During all this time
there was salt blown up his nostrils twice a-day, being previously well cleaned and fomented with warm water.

The swelling under the jaw was blistered every four or five days, so as to keep up a constant inflammation and discharge from the enlarged gland.

Every attention was paid to exercise, dressing, cleanliness, the food, and water, which was always made warm and white with bran or oatmeal; and the animal fed with scalding oats and bran together. By this method he has been cured of the glanders, and discharged from the hospital stables, after being kept four months under the above treatment.

Case Fourth.

In the month of August, 1807, five glandered horses having been submitted to the above treatment, viz. two of Capt. Stamer's, one of Capt. Daniel's, one of Capt. Rich's, and another of Capt. Pringle's troop; the one of Capt. Stamer's proved incurable, and was ordered to be shot, after being a month under my treatment; and the other got apparently well, and was sent back to his troop: but five or six weeks afterwards, he was returned to me affected with farcy; the whole side of his body, belly, legs, and head broken out in a great
number of places, with considerable farcy buds, which, in three weeks after his second attack, terminated in the glanders, and he died.

The one of Capt. Daniels's troop appeared several times better and worse, until the symptoms became of a very bad kind, when he died under treatment.

That of Capt. Rich's troop recovered, and has kept well ever since.

That of Capt. Pringle's troop had several times every appearance of getting well, the swelling under the jaw disappearing entirely, but the running at the nose continuing almost constant, and in very large quantities, except for some little interval of about a week at a time, when it returned again with the same violence as before.

This abundant and obstinate running at the nose, after the swelling had subsided, induced me to suspect the frontal sinus was loaded with matter; to ascertain the fact, I opened the frontal and maxillary sinuses. But I found them both completely free from any pus or matter; this convinced me that the discharge originated from the lungs, and was thrown off, and evacuated through the nose.

In this case, little or no hope was entertained of succeeding in making a cure; yet I continued persevering in the use of the above medi-
cines, with antimony and sulphur, until the symptoms became so formidable as to reduce the animal to a complete object of pity, when I was obliged to take away a life that all my care and attention could not render worth preserving.

The difficulty of curing the glanders, in the majority of cases, is greatly increased by allowing the disorder to go on for a long time before any attempt is made to stop the progress of the disease, in which case, we should adopt our treatment to the more rational expectation of effecting a gradual recovery, than a sudden cure.

Before we dismiss this important subject, the following remarks may be acceptable to the reader, as he may be able to lay down a fundamental principle to try further experiments to cure or conquer this dreadful disorder.

The first and the most proper remedy after the sublimate, against this dreadful disorder, is arsenic; from the extensive trial I have made of it, I have uniformly found that it may be given to horses with perfect safety; it is infinitely easier to manage than the sublimate corrosive, but its effect is not so certain; arsenic may be given to the dose of half a drachm a day, and continued for several weeks successively, without any perceptible effect on the system; I have administered half an ounce of
arsenic to glandered horses that were to be shot, for several days successively, before any inflammation on the stomach and bowels has been observed; and by suspending the medicines for a few days, with plenty of water-gruel to drink, the animals have recovered in a few days, and the arsenic has been continued again as before.

In short, if the arsenic be carefully and judiciously employed, it will be found a most valuable remedy, particularly in cases of weakness, debilitated and emaciated horses sweating at the least exercise; from its tonic quality, it will be found in the dose of ten or twelve grains a day, mixed with two drachms of antimony, and half an ounce of sulphur, an incomparable remedy in the above-mentioned diseases. But in the treatment of the glanders, the sublimate corrosive is infinitely preferable, its effect being more certain and more permanent than arsenic.

N. B. I have tried the effect of the terra ponderossa, or ponderous earth, the terra ponderossa selinit, the vitriolated quicksilver, &c. on several glandered horses, but without any appearance of success from these medicines.
GRAVELLING.

This disease is nothing more than the ill consequences of the common method of shoeing, such as paring the sole too thin, and the making of the shoes too narrow in the web. In this state, if the animal be exposed to hard roads, small stones will easily penetrate through the horny sole, and produces inflammation of the sensible sole. Another cause, no less frequent also, is the suffering of the shoes to press on the horny sole, or allowing the horny sole of a flat or convex foot to be cut away, under the idea of searching for gravel, &c. However, if from either of these causes, you find that suppuration has already taken place in the foot, drawing it out as clean as possible with a drawing knife will be necessary, and after the operation the foot must be bathed in warm water for an hour three times a day. At night, the sore must be dressed with a mixture of tar, Venice turpentine, and hog’s lard, equal quantities of each. If the ravages of the preceding inflammation have done much injury to the foot, we refer the reader to the treatment under quittor, sandcracks, inflammation of the laminae, sensible sole, and frog.
GREASE.

The grease is a disorder so well understood by every one, that it needs no description; it will be sufficient to say, that it proceeds from an inflammation, and swelling of the heels, and often of the whole legs, followed by a discharge of an oily matter, which has a peculiar smell, owing to the secretions of the heels being of a nature peculiar to themselves, and differing greatly from the pus of any other sore, being secreted from the vessels of the skin, which serve for the secretion of the sweat. This excretion is very mild in a state of health, but soon becomes corrupted in cases of inflammation. Heavy horses, with round fleshy legs, are the most liable to grease. It has been observed, that horses are very seldom troubled with this disease in summer; and it has been observed also, that horses at grass, or young ones, never have the grease before they have been domesticated. But, if a colt is taken from grass, and immediately kept in a warm stable, after having been used to the severity of the atmosphere, he then frequently gets this disorder.

A sudden transition from cold to heat is one
of the principal causes of this disease in old horses; it also arises from substituting a generous, after an impoverishing diet, and from constitutional debility. The hind legs are more subject to grease than the fore, because the fore extremity being nearer the heart than the hinder, the circulation is quicker and easier in the fore legs than in the hind.

Upon this principle we may also explain the reason why we find a very great advantage from hand rubbing the legs, the friction admirably assisting the circulation of the blood; whereas, if there be no hand rubbing to the legs, and the animal cannot get exercise, the blood becomes stagnant, and plethora and inflammation takes place.

Gentle exercise is of great service to prevent this disease, but at the same time it is a fact, that sudden and violent exercise will produce the grease, from the violent exertions the nerves and blood vessels suffered; from which exertions also arise a weakness and debility of the parts, which retards the secretions, and creates inflammation.

The cure of the grease must be begun by considering attentively the state of the leg. If the inflammation and swelling be great, the animal must be bled pretty largely, and then give him purging physic, and a diuretic
alternately one after the other, which must be repeated occasionally, at least once a week, or as the state of the case shall seem to require. And at the same time the diseased leg must be kept in a bath of warm water, or warm fomentation, for several hours a day, and at night the part must be covered with a large poultice of boiled bran and marsh-mallows, turnips, or linseed powdered, which must be kept as warm and moist as possible, with plenty of exercise. When the inflammation has apparently ceased, the heels may be washed three times a day with the following astringent:

Take rain water a gallon, allum six ounces, white vitriol an ounce and a half, and wash the sore twice a day; at the same time the fomentations and poultices of bran and linseed powder must be continued night and day, until a perfect cure is effected. But if the case proves tedious, looks foul, and continues to have an offensive smell, pledges of tow, spread with the following ointment, will be an extreme good application, until they assume a healthy appearance.

Take hog's lard, or mutton suet, Venice turpentine, olive oil, or fresh butter honey, and bees-wax, one pound of each; let the lard, suet, turpentine, and the wax be melted together; when dissolved, add the oil and honey,

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and mix the whole carefully over a slow fire; this is, undoubtedly, the best ointment possible, for digesting, cleaning, and healing all kind of ulcers and wounds; and when there is a local debility of the vessels, as in the case of grease, &c., a little verdigrease added to the ointment, will be of considerable advantage.

Cases of grease have occurred in which the swelling was excessive, the discharge great and offensive beyond description, and the surface of the heels have been covered with numberless enlargements called grapes; in this case, every one of those grapes must be destroyed with the actual cauterity, repeated as often as necessity requires. If they are of an oblong shape, they must be extirpated with the knife, before the application of the red iron; it happens sometimes, that the legs are perforated with a great many holes, occasioned by those grapes; in this case, we must apply some blue vitriol, in substance, in every one of these holes, properly managed, by the continuation of poultices of bran and water as above directed, which are to be continued during all this treatment. Horses troubled with this disorder, will receive very great advantage by bathing their legs, and drenching them likewise with half a gallon of sea water every morning fasting, until the animal purges, then stop a day or two, and begin again.
When the swelling and inflammation is not very great; poultices of bran and sea water will generally be sufficient to cure the grease. Where any debility exists, the habit must be strengthened with nourishing diet, and plenty of gentle exercise.

HALTER-CAST

Is an accident extremely common in the cavalry regiments in particular, in consequence of the horses being kept a long interval of time without hay or any other food, which makes them very uneasy; this accident is occasioned by the animal's endeavouring to rub his neck and head with his hind foot. I have known several horses that had their legs so fastened with their collar chain round the pastern joint, as never to be able to disengage themselves, and have fallen down with their head bent under their belly, and in that miserable situation have died in ten or twelve minutes; and where they have been so fortunate as to get assistance soon enough to save them, they have been found so cruelly mangled, as their life to be despaired of for several months. The cure of this consists in bathing the parts with lead water several times in the course of an hour, and the day after apply constant fomentations