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GLANDERS IN HORSES

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GLANDERS IN HORSES.

Now that the suitability of Canada for horse-raising has been demonstrated, and the excellence of Canadian horses has been proved by the severest tests, this country henceforth will be looked to as a field for purchasing of horses by all the European countries, both for civil and military purposes.

The enormous advances in values within the past three years, owing to increased demand and scarcity of good horses elsewhere, should induce our farmers and ranchmen to recommence horse breeding without loss of time so that we may retain the demand for our produce and increase our output.

Unfortunately in a few instances horses purchased by Imperial officers for remounts were found to be affected by glanders, a contagious disease which is known to exist to a limited extent especially in the western portion of the Dominion, Manitoba and the Territories, due very largely to the importation from the south of cheap ponies which are constantly being brought into the country and sold to farmers throughout the west.

This bulletin has been written with the object of informing those interested of the nature of the disease, means of recognizing it and what each should do to prevent its introduction and arrest its extension; and the Minister of Agriculture hopes that the efforts being made by the official veterinarians and mounted police officers will be seconded by every horse breeder and agriculturist in Canada, as it requires the combined efforts of all concerned to accomplish the desired end.

GLANDERS AND FARCY.

Glanders and farcy are one and the same disease, both are due to a specific virus. They may occur independently or may co-exist, and may be acute or chronic.

The horse, ass and mule are most susceptible. It has also been produced in the dog, lion, goat, sheep, pig, cat, guinea pig and pigeon by inoculation. It is readily communicated to man by inoculation; and grooms with sores on their hands frequently contract the disease from horses which they may be attending. It is due to a rod-shaped straight or slightly curved bacillus with round ends, called the *bacillus mallei,* which is ærobic, that is, requires oxygen of the air to live and thrive. It is found in the discharges from the nose, in pus of ulcers, in farcy buds, in tubercles when found in the lungs, in diseased glands, and less frequently in the blood when the disease assumes the acute form.

Occasionally the symptoms in chronic cases are obscure. In acute cases they are pronounced, consisting of rigors, fever, swelling of the glands in the submaxillary region, often farcy buds along the course of the lymphatics of the hind legs or shoulders; a leaden colour of the mucous membrane of the nostrils, and in later stages, patches of congestion, erosions and ulcers which have depressed mouse-eaten-like centres, raised edges surrounded by a red areola and discharging a sanious pus. The localization of the lesions (chancres and tubercles) occur in the membrane lining the nostrils and upper air passages, in the larynx and lungs. In true glanders, the submaxillary glands are enlarged, hard and attached to the sides of the jaw. The lesions are frequently confined to one nostril—the discharge from which is constant, though seldom excessive, but always adhesive, often of heavy specific gravity sinking in water, and in advanced stages it is offensive and mixed with blood indicating the exposure of blood vessels by the ulceration and the implication of the cartilage or bones.

In the lungs numerous small tubercle-like nodules are found resembling milliary tubercles of tuberculosis, which when present produce quickened breathing and cough. In the superficial form usually called farcy, the localization is confined to the chains of lymphatic glands in the groin and shoulder which swell, suppurate, and form open ulcers which discharge a similarly adhesive pus.

It may commence as glanders, farcy setting in subsequently or vice versa. The former is incurable, although some authorities claim to have witnessed recoveries. Farcy is supposed to be curable by some, but the one so often runs into the other, and the risks of error so great that we prefer to deal with both forms as incurable.

In a country of such vast extent and variety of climate as Canada, we find corresponding variations in most diseases of animals, and in glanders particularly is this the case. It is a disease especially of the cheap horse, thus in the crowded cities there are many poor men who work cheap horses and stable them in buildings unfit for animal habitation. These are the horses which becoming infected spread and perpetuate this disease by infecting buildings, drinking troughs, &c. In them, too, we meet with it in its most virulent and acute forms.

On the farms, too, infection is spread by the congregation of horses in crowded stables on market days and during church service. In farm horses which are a great deal in open air and sunshine it usually assumes a somewhat chronic form; acute cases being less frequently seen than in cities.

As seen in the prairie country and Rocky Mountain regions it is not nearly so pronounced in its manifestations, is seldom acute and often very deceptive and difficult to diagnose clinically; hence the greatest care should be exercised by those who bring horses into Manitoba and the Territories to take every precaution against its introduction. It is to be feared that during the past four years this disease has been repeatedly imported from the south by cheap ponies brought in to sell to mining outfits; true, careful inspection is ordered and carried out by the veterinarians of the mounted police, and they do the best they can under the circumstances, yet we know that inspection of large numbers of semi-wild horses on the prairie cannot be other than unsatisfactory.

as glanders in a latent form can only be detected by close examination or the mallein test, which is usually impractical, for want of necessary facilities and difficulty in handling them. Unfortunately also many of those who purchase cheap horses for riding and packing purposes have little knowledge of horse flesh and are ignorant of the indications of disease, or the danger to which even one diseased horse may expose those men and horses with which it comes in contact. This ignorance tends to spread this insidious malady.

Fortunate indeed is the fact that the bacillus of this disease readily dies if exposed to sunlight. The bright scorching sun of our territorial regions and the strong winds so often prevailing there, are our surest safeguards against it, as is also the usual practice followed by travellers of turning horses loose on the prairie or on a picket line instead of into a stable or shed, thus preventing to a large extent both direct and stable infection.

MALLEIN AS A TEST.

Mallein, which is a sterilized glycerine extract from cultures of the *bacillus mallei*, the pathogenic bacilli of glanders, is the analogue of tuberculin, and is believed by those who have had most experience of its use as a diagnostic agent to be as reliable in discovering occult cases of glanders when not discernible by symptoms, as is tuberculin in tuberculosis.

Its Injection and Results.—It is injected subcutaneously in the same manner as tuberculin—the normal temperatures being taken during the previous day. If glanders exists, within from six to eight hours there will be a hot painful swelling at the point of injection, and a rise in temperature of two degrees to five degrees or more, and occasionally a rapid development of the general clinical symptoms may follow. In all instances where practicable the test should be applied to every doubtful animal, and to all which have been expressed to infection direct or mediatory.

We recommend every reader of this bulletin to consider well the following:—

FACTS WHICH HORSE OWNERS OUGHT TO KNOW ABOUT GLANDERS.

It is contagious and communicable by direct contact and mediatory agents, such as feed boxes, drinking troughs or pails.

It is communicable to man, when the virus comes in contact with a sore, or into the mucous membrane of the eyes, nose or mouth.

It is incurable in both animals and man.

In man it is a most painful and loathsome disease, with offensive discharges from the throat and nostrils, and unhealthy boils and blebs all over the body.

In buying horses, nasal discharges should always be viewed with suspicion, and horses with such should be refused unless on expert advice.

WHAT EVERY HORSE OWNER OUGHT TO DO.

Immediately on discovering symptoms indicatory or suspicious of glanders, isolate the animal completely, and report his suspicion to the Minister of Agriculture.

On no consideration should a horse owner try to hide such a suspicious animal, he endangers his other horses, the lives of men working with or about the horse, or of members of his family, or it may be his own life.

In the Territories, report to the Commissioner of the North-west Mounted Police, who will order necessary action on behalf of the Minister of Agriculture.

The owner should carry out to the letter all preventive measures suggested by the veterinarian, even at a good deal of trouble and expense. In dealing with infected stables, nothing short of removal and burning of all woodwork, feed boxes, hay boxes or racks, will be effective, the floors and stall divisions may be planed and limewashed, or scrubbed with some disinfectant solution.

The following simple direction for the disinfection of stables extracted from last year's report may be useful in dealing with glanders:—

'When the buildings are modern and properly constructed as to air space, light, drainage and ventilation, disinfection is a simple matter.

'When, however, the stable building is old, perhaps a utilization of some old wooden structure for housing animals, or the make-shift erections of the pioneer in the west who by force of circumstances has been compelled to provide some sort of shelter which because horses are kept in it is called a stable, it is more difficult.

'The disinfectant may be gaseous, spray, liquid or solid. The gases most used for disinfection are chlorine and formaldehyde.

'In using gas for disinfectant purposes it is necessary to remove the animals, and close up tightly the doors, windows and ventilators.

'To generate chlorine gas, place, say, 8 ounces of common salt with which an ounce of black oxide of manganese has been mixed, in an earthenware plate, then pour three ounces of sulphuric acid over the mixture and stir, when chlorine gas will be evolved. Care must be taken not to inhale any of the fumes as they are very irritant to the bronchial tubes—several plates may be used according to the size and form of the stable. It should be left closed for four hours when it may be opened and air and light freely admitted for several hours before animals are returned to it.

'Vaporized formaldehyde is extensively used for disinfecting houses, it is disengaged by a special apparatus and is introduced to a room or building by a rubber tube passed through a key-hole.

'Steam is very effective where it can be conveniently furnished.

'The liquids used for disinfection are: solutions of corrosive sublimate which while much used in human practice are too dangerous to be employed for disinfection of stables or byres, solutions of carbolic acid, creolin, sulpho napthol or sanitas, may be used either in watery solutions or in combination with lime wash.

'Reliable disinfection may be obtained by using a spraying pump and applying a lime wash to every five gallons of which a pound of commercial carbolic acid is added, forcing it into every corner, crack or crevice of the walls, stall, divisions and floors.

'The solids used are lime, chloride of lime, and carbolate of lime which are useful for sprinkling floors or mixing with composts and manure heaps.

'More powerful chemicals are prescribed for disinfection, but in selecting the above we have considered efficiency, safety, cheapness and facility in procuring as most country druggists can supply them.'

Insidious and incurable as this disease undoubtedly is, the facility with which the infective properties of the *bacillus mallei* are destroyed by sunlight and dry air as well as by such measures as above suggested, and diagnosis by the mallein test being almost absolutely reliable, it is quite within the possibilities that this disease may be completely eradicated, and if fresh importations are prevented, our horses will have a clean bill of health which will greatly enhance their value and ensure a ready sale.