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DEPARTMENT OF VETERINARY MEDICINE
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Navel Ill

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Navel ill is an infectious disease, and each infectious disease is caused by a specific definite organism. The laws of reproduction, growth and development of all living things are fixed by Nature. These laws are practically the same in both plants and animals. A pumpkin seed never develops into a watermelon. A kernel of corn will produce corn only. A drove of hogs turned into a pasture and supplied with plenty of shelter and good feed and drink will never develop into a herd of cattle. The germ of distemper cannot develop into the germ of glanders or into lockjaw, nor can the bacillus of tuberculosis cause typhoid. Each living thing produces its own kind only.

A grain of wheat dropped into a suitable soil where there is sufficient plant food, moisture, and warmth will in a certain number of days begin to swell, to grow, and will finally mature. The result is the production of an increased number of grains similar to the one originally planted. This is performing its full mission for which it was intended by Nature. Some of these new grains may be larger or stronger, others may be smaller and weaker than the parent grain, depending much upon the ancestors and the health and strength of the grain planted; the amount and the kind of food available and the conditions of moisture and temperature during its period of growth and development. The trained farmer or stock raiser has only to look at the growing plants or animals to tell from what kind of seed they originated.

It is easy to realize these conditions and laws when they are applied to animals and plants which can be seen with the naked eye, but it is much harder to realize when applied to bacterial life. In these cases we do not see the cause, but see only the effect, but each germ has a particular way in which it shows its presence. The organism of diphtheria, for example, shows its presence by certain symptoms and lesions in its development, and it always happens that when certain conditions are found a microscopic examination always reveals the cause--the specific organism. Each particular germ carries with its development a certain set of symptoms, and whenever those symptoms present themselves under certain conditions the conclusion is obvious--they are always caused by a certain germ. This is

how we recognize the causes of certain diseased conditions of animals or plants.

Practically all infectious diseases are caused by organisms of some kind, and all diseases caused by such organisms are preventable. In order that an infectious disease may spread to other animals, it is necessary for the organism which causes the disease to gain entrance into the body of the other animal before that animal will contract that particular disease. The organism and the animal must be brought together—keep them apart and the organism will eventually die—keep them apart and an infectious disease cannot spread. This is why State and Federal laws are enacted establishing quarantine to protect the healthy animals and to control infectious diseases.

Cause of the Disease.--In the disease we commonly call navel ill, the organisms usually enter the animal through the navel. It is a noticeable fact that where mares are kept in the open pasture or in new enclosures the disease is rarely found—the germ and the colt do not get together. On the other hand, the trouble is most prevalent in old breeding establishments where the germs live from year to year in the breeding pens and stalls; especially do they thrive in damp places. These facts should of themselves suggest the rational methods of handling this particular trouble.

Some of the Symptoms .--The foal is noticed to be dull and probably lifeless or indifferent to nourishment and probably appears to have some fever. The temperature will be found to be above normal, while the hair is rough and harsh looking. Chills are sometimes noticed.

Many cases show a lameness in one or more limbs, which may shift from one limb to another, reminding one of a case of rheumatism. One of the most common symptoms can be best described by the expression the veterinarian usually hears in these cases, "The mare must have stepped on it." Most often the hock of one leg is affected, but any other joint may be involved. As the disease progresses swelling and heat can be noticed in the affected joint, and this swelling gives it a "boggy," soft feel.

Usually these swollen joints burst and discharge, a yellowish, thick, greasy fluid, which dries and crusts on the hair, while the wound refuses to heal. The young animal continues to get weaker and finally is unable to get on his feet. He may last several months in this condition or he may die quickly.

Many cases show only slight swelling about the navel, with some yellowish pus accumulation. Other cases resemble strangles or distemper. The bowels may show constipation and very light yellow pasty discharges in some cases; in others diarrhea is noticed at the beginning.

Post Mortem Appearances.--Careful examination of the carcass after death reveals the navel swollen and jelly-like in consistency, while the blood vessels leading from it are corded and inflamed, often containing clotted and partially decomposed blood and sometimes pus, Intestines contain clumps of hard, pasty faeces and the peritoneum, or inner lining of the abdomen, is often somewhat inflamed. There may be abscesses in different parts of the body, particularly in joints.

Sometimes the urachus is open and urine discharges from the navel in a small stream or by drops, which keeps the under part of the belly moist. This, in itself, is not likely to cause the death of the foal, as it often subsides if left alone. It may be closed by blisters or it may be necessary to close it with sutures. This condition should not be neglected, as navel in-

fection might occur. Keep an antiseptic on the parts, and if it does not close in a few days, get a veterinarian to see what is necessary to do to close it.

Treatment.--For the average stock owner, prevention is worth far more than attempts to cure because of the ease of preventing its occurrence. Since it is known to be due to infection and that the infection probably enters the navel, efforts to prevent the trouble should be directed here.

Keep the germs and the colt apart.

Means of Control and Treatment .--Premises once infected should be considered dangerous until thoroughly disinfected, which may be done as follows: A few days before the mare is ready to foal, remove her from the usual stall to a foaling place from which all litter has been removed and burned, and the ground and walls thoroughly sprayed with a 5 per cent solution of coal-tar dip in water, or a one to five hundred solution of bichloride of mercury and water, thickly applied with a spray pump. Let this dry a few hours and cover the floor well with a layer of clean, bright straw. Wash the mare's tail and surrounding parts with the same antiseptic solution as used on the floor and walls, diluted about one-half the above strength. Leave the mare alone with good, moderately laxative food and clean water in abundance and wait with patience, not too much inquisitiveness. As soon after foaling as possible, take a cord which has been soaked in tincture of iodine and tie around the navel cord, about an inch from the body, and paint thoroughly over this cord with tincture of iodine. If the cord is visibly soiled, it would be best to wash it off, with a good antiseptic before applying the iodine and to apply the iodine several times at intervals of twelve hours.

Treatment after infection has progressed till joints are swollen is rarely satisfactory. Some cases respond well to careful iodine application to the navel end affected joints, with potassium iodide and liver stimulants internally, but the best satisfaction is now obtained by using the Bacterin treatment, vaccinating the colt against this trouble with the product of these germs themselves produced in the laboratory. This treatment, however, is somewhat complicated, and is as yet only satisfactory in the hands of experienced veterinarians. Prevention is so easy and so certain that the stock raiser should devote his energy toward preventing the trouble--keep the germs and the colt apart.