THE HORSE.

Diseases of the Feet—II.

Navicular Disease.

Navicular disease, often called coffin joint lameness, is a very common disease, especially in the lighter classes of horses, those that are used for road work, either in harness or saddle. The navicular, or coffin joint, is situated within the hoof, hence the name coffin joint. It is formed by the articulation of the lower end of the small pastern bone with the articular surface of the os pedis. The disease under consideration consists in inflammation being set up in the joint. In well-established cases the inflammation causes an alteration of structure of both bone and tendon; the fibrous covering of the bone becomes destroyed, a form of decay is established, and the bone and the tendon become united. In the normal state the tendon plays over the bone somewhat in the manner that a rope plays over a pulley.

Causes.—In many cases there is doubtless a hereditary predisposition, not altogether due to conformation. Horses with short, upright pasterns are predisposed on account of conformation. This can be readily understood from the fact that concussion is greater than in horses with oblique pasterns. Ordinary concussion, from travelling on hard roads, is doubtless the most fertile exciting cause. Irregular exercise is also often noted as the cause. Horses that are used only occasionally, those that often stand in the stable (especially in dry, hot weather, when no means is taken to supply moisture to the feet) for several days, without exercise, and, when taken out are driven or ridden fast, then again allowed to stand idle for a variable time, then given a fast drive, etc., etc., frequently suffer from the disease. The dry and somewhat hot condition of the feet predisposes to the trouble, and concussion acts as a direct exciting cause.

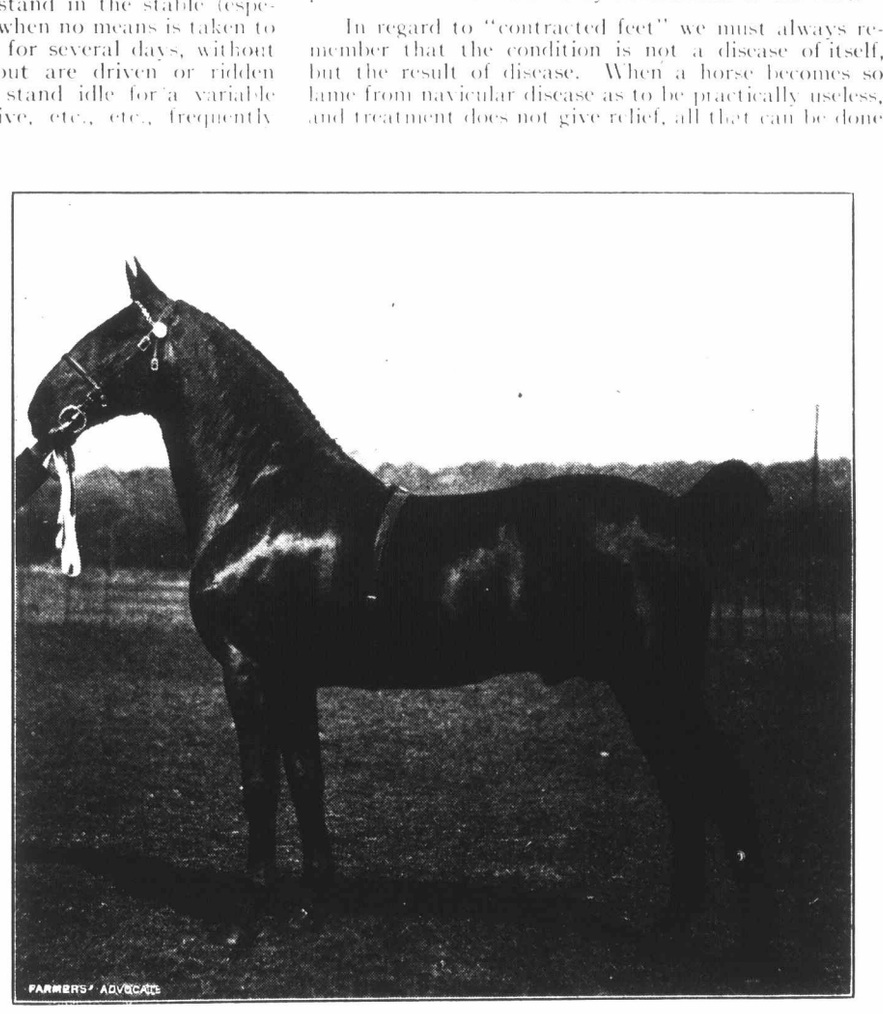
Symptoms.—The symptoms are often very insidious. The trouble may be developing in one or both feet. Lameness is usually very irregular. The patient may be noticed going slightly lame, probably the driver cannot readily decide whether or not he really is going lame, but he is not going quite right; or, he may show suspicious symptoms when first brought out but these soon disappear, and the driver probably decides that he was mistaken in suspecting lameness. Then he may go sound for a variable time, then show suspicions, or probably decided symptoms, then again go sound, etc., etc. The intensity of the lameness varies greatly without apparent cause. An examination of the leg and foot does not reveal cause for lameness, and the horse stands sound. After a variable time the symptoms of lameness become more decided and constant, and the patient will be noticed pointing his foot when standing, but even now he may often go practically sound after having been driven a variable distance. The symptoms increase until he will show lameness at all times, will step short with the lame foot, and stub the toe, wearing the toe-calk down quickly. An examination at this stage will usually reveal the foot smaller than its fellow, also narrower and deeper in the heel and there will be more heat in the foot, but this is very hard to detect. The patient is supposed to evince pain when pressure is exerted upon the hollow of the heel, with the thumb, but we have never noticed this symptom well marked. There being an absence of any apparent cause of lameness in any other part of the limb, the symptoms having been more or less as described, and the foot having become smaller than its fellow, is usually considered sufficient reason for diagnosing "navicular disease."

We may say that "we are forced to judge largely by negative symptoms." When both feet are diseased, the step will be short and groggy, the toes stub, and the toe-calks wear off quickly, and, when standing, the patient will point one foot and then the other, and when in motion will often be inclined to canter rather than trot. Both feet being diseased, there will not be a difference in size and shape, as they will both have become smaller than normal, but this will, in most cases, be hard to determine.

Treatment.—If treatment be adopted during the early stages of the disease, a perfect cure may be effected, but when disease has advanced until there is malformation of bone and tendon, a cure cannot be effected. In such cases the symptoms may be relieved to a considerable extent and the horse rendered of some service for slow work, but he will never be valuable or serviceable for any considerable amount of work on hard roads. Treatment should be directed towards allaying the inflammation and increasing the growth of horn. The patient must be given a long rest, the shoes removed and the heels lowered, and all partially loosened structures removed from the sole. Poultices, either hot or cold, should be applied to the foot, or the patient forced to stand in a tub of water several hours daily for a week or ten days. Then a blister should be applied to the coronet all around the foot. Nothing is equal to a blister to stimulate the action of the coronary band, hence increase the growth of horn. A blister composed of two drams each of biniodide of mercury and cantharides, mixed with two ounces vaseline, gives good results. The hair should be clipped off the parts to be blistered, and the patient tied so that he cannot reach the parts with his mouth. Some of the blister is then well rubbed into the parts, with smart friction. In twenty-four hours rub well again with the blister, and in twenty-four hours longer apply sweet oil and turn the patient loose in a box stall. Oil every day until the scale comes off, when he should be tied up again and the blister applied as at first. After this the blister may be repeated every month for several months. When again put to work rubber pads should be worn between the wall and the shoe, or bar shoes worn, to lessen concussion; the pads give the best results. Even where there is alteration of structure, this treatment usually alleviates the symptoms by increasing the growth of horn, thereby relieving the pressure that was caused by contraction of the foot.

In regard to "contracted feet" we must always remember that the condition is not a disease of itself, but the result of disease. When a horse becomes so lame from navicular disease as to be practically useless, and treatment does not give relief, all that can be done is to get a veterinarian to perform neurotomy. This consists in removing the nerve supply to the feet, and, while as a consequence, it removes lameness, it does not cure the disease. It is not advisable to operate unless the horse is practically useless, as the freedom of action after the operation often causes a fracture of the weakened navicular bone or rupture of the weakened tendon, or both, which of course necessitates the destruction of the horse. In some cases the animal is serviceable for several years after the operation. The feet of horses that have been operated upon should be examined regularly, as although sensation has been removed, the process of decay and repair continue as in a healthy foot; hence the animal may pick up a nail, etc., and will not show lameness, but the ordinary results of the accident, viz., the formation of pus, and sloughing of the tissues, will occur, and may not be noticed until past the stage where treatment could be effective.

WHIP



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LIVE STOCK.

The Cause of Hairless Pigs, and Goitre in Lambs and Calves.

In early spring there are frequent complaints from farmers in regard to the peculiar behavior of their brood sows at farrowing time, in that hairless instead of normal pigs are littered. It has been opined that improper housing conditions, lack of exercise, and poorly-balanced rations are contributing causes. Yet, in spite of all the investigations that have been conducted, no one is able to pronounce definitely on this subject. In Western Canada this abnormality in newly-born pigs is becoming a serious question, but added to it is the prevalence of goitre in lambs and calves. This last-mentioned malady is also a serious menace to the new and developing live-stock industry in New Ontario. In the 1916 report of the Monteith Demonstration Farm, the Superintendent writes thus:

"We always have had difficulty here with our calves. Each calf is dropped with a thick throat, which has the appearance of a goitre, and unless it receives immediate attention upon its arrival it is likely to choke or suffocate from a slime or mucuous which collects in the nostrils or throat. In some cases they lie flat on the ground with their heads back, but never move or breathe. In this case the attendant should bend the head of the calf down below the normal position and back again two or three times in rapid succession. At the same time manipulating the swollen portion of the throat. He should then run his finger up the nostrils of the calf, which not only clears the passage there but it seems to induce the calf to snort. A feather serves well to insert farther up the nostrils. If the calf does not show signs of life the attendant should turn it over once or twice, perhaps at the same time gently kneading or pressing on the ribs. Immediately upon doing this cold water should be splashed over the head of the calf; perhaps a whole pailful can be thrown over the body. This will often bring to life a calf that was apparently dead, but all these things must be done immediately after the birth of the calf. If the weather is at all chilly it may become cold from the drenching it has received, and it is always advisable to rub briskly with dry straw or with a piece of carpet or an old sack. This rubbing not only dries the calf, but increases the circulation. After this has been done if the cow does not lick the calf vigorously she can often be induced to do so by spreading a handful of chop over the back of the offspring. If the calf does not rise to its feet within an hour or two it is advisable to see that it gets a good feed of its mother's milk."

It was found imperative at Monteith to have the cows freshen in the spring after they could get out on grass, rather than in winter under conditions that were necessarily unnatural. With this system little trouble was experienced, showing that the winter environment and feed were not conducive to a normal functioning of the body organs of the dam.

It is not only in new and developing countries where the progeny of live stock suffer these afflictions. In Western Canada and in several of the States of the Union the question of hairless pigs has been discussed and investigated at considerable length. The Live Stock Commissioner of Alberta, in the 1916 annual report of the Department of Agriculture for that Province, goes into the matter very fully and sets down what information there is to hand at the present time. In this regard he writes:

"There is need at the present time for definite information along this line because there is reason for believing that some of our difficulties in connection with the growing of live stock are the result of a lack of knowledge on this point. The difficulties to which reference is made are goitre among newly-born calves and lambs, and an absence of hair on newly-born pigs, especially on those farrowed during the winter months or early in the spring. There are losses of this kind in Alberta every year; some years they are serious. In the year 1916 they were especially so, besides being spread over a wider area than usual. It is said that for the first time in the history of the United States serious losses of this nature were sustained in the spring of 1916, in the northern portion of that country. In the State of Montana alone it is reported that the losses amounted to about one million head. The Federal Government of the United States sent a staff of experts into the affected area to enquire into the matter and ascertain the cause of the difficulty, if possible. The only organ found to be defective, in the hundreds of animals examined, was the thyroid gland. This fact would suggest that pigs being born without hair, and calves and lambs being born with goitre might result from a common cause, and that these ailments in the animals named may spring from causes kindred to those of goitre and cretinism in human beings.

"The regions in which cases of goitre and cretinism in human beings most frequently occur are the valleys of the Alps, the Himalayas, the Andes, and, to a lesser extent, the Rockies; and the parts of these mountainous districts in which the inhabitants are most seriously affected are those valleys which have but one outlet and which are exposed to the sun's rays but a few hours each day. The conditions which naturally result from such an environment and which, in the opinion of medical authorities, tend to produce these abnormal developments, are insufficient sunlight, stagnant air, cold—especially when combined with dampness, the use of water that is deficient in oxygen, such as snow-water or water that has been in contact with minerals which