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HORSE POX
(Variola equina)

(Following is the translation of an article by Dr. Bub, Veterinary Colonel, Army Horse Clinic, published in the German language periodical Journal for Veterinary Medicine, 54, 1942, pages 137-141. Translation performed by Constance L. Lust.)

The hospital received 130 french horses at the end of October. Ninety-three horses were placed into an out of the way barn and the rest were stabled in three seperate stables.

After only a few days several horses exhibited flowing saliva (foaming of the mouth). During the investigation of the mouth cavity it became apparent that defects of various size were present on the mucous membranes of the tongue. The illness spread very rapidly (appeared contageous in character) to all stables and attacked nearly all of the bought horses. By the end of November 93 horses were ill.

The course of the illness was as follows:

Animals had little fever, mostly no fever, but extensive secretion of salvia. This salvia formed into tough, long fibers, which sometimes hung out of the mouth 30 cm. long. Only a few animals had no symptoms.

Alterations started to appear in the external skin in the region of the mouth as well as in the mucous membranes of the mouth, expecially membranes of the back of the tongue.

On the skin of the lips and in the region of the nose large -the size of peas- knots appeared, which were gray, and which ruptured after a time.

Little knots whose top was covered with a yellow crust were also seen. Sometimes the knots were already gone, but open sores remained.

The alterations in the mouth were red-dotted knots on mucous membrane of the lips. These were varying sizes. The background of these lesions was dirty red. Often in the membrane of the upper lip, yellow conical knots were seen. Many knots also appeared in the area of transition between external skin and mouth membrane.

The most prominent signs appeared on the membrane of the back of the tongue; small, numerous blisters the size of pin heads. They enlarged, burst, formed lesions with a hard surface and then resulted in

defects to the membrane. These lesions were often so numerous that their presence totally removed all membrane from the back of the tongue. In some cases the whole tongue was affected. When the illness of the membrane was severe the intake of food was severely restricted for several days. Generally the desire to eat was not noticably altered. The horses were generally cheerful and showed only a short period of malaise.

The illness lasted two-three weeks on the average. In severe cases and those with extended illness the duration could sometimes last four weeks. Unless large pox were present during the illness scars remained afterward.

One horse of the group, which showed no alterations open, close investigation (both internal and external) was used as follows: the saliva of a severely ill horse was placed (and rubbed) on the tongue of this horse. After 24 hours the animal already showed typical changes in the mouth and on the tongue. His temperature was only 38,1°C. He recovered fully in 14 days.

In four horses other symptoms appeared besides those described, eg. evidence of stomatitis etc. in other parts of the body, also lymph node inflammation.

1) Horse (hoff brand 3199) also showed besides stomatitis three large (size of coins) ulcer (abscess). The lymphatic vessels between the ulcers were swollen and painful. Ulcers and knots on the neck were removed surgically. Healing was rapid and complete. The swelling and other symptoms (pain) went away in 24 hours.

2) Horse 3277 had an abscess on left eye lid. On the lower lid were three smaller abscesses. All three abscesses healed within two weeks.

3) Horse 3266 had two larger ulcers on the nose. They were burned off and healed fast.

4) Horse 3193 ill with stomatitis and had numerous large knots on lip. Knots were removed surgically. Some were filled with yellow puss.

From differential diagnosis in these four horses skin disease and lymphangitis epizootica was considered. All mallein-eye tests and blood tests were negative. Also other findings spoke against these diseases.

Based on the general course of illness the diagnosis was made as Horse pox (Variola equina).

In the differential diagnosis the mouth inflamation with blisters (Stomatitis vesicularis) had to be considered. However, the appearance of pox and the lack of fever spoke against this.

The vesiculo-exanthema, which is often found in horse pox, could not be demonstrated conclusively. Since horses had other symptoms (mauke) which may have had other origins.

In this small outbreak the most obvious alteration was the gross change in the tongue, which as far as we know has not been reported (Spec. Pathology and Therapy by Hutyra-Marek 1938).

Treatment consisted of rinsing the mouth with weakly antiseptic solution (vinegar-water, tea) and in part treading some ulcers surgically.

The horses recovered better when they were stabled in less crowded conditions. By using water sacks, pails and bags the practice of communal drinking was largely abolished.

During the continuous examination of the mouth cavity, which were initially done without rubber gloves, a transfer of the infection to humans occurred. This appeared in three cases. On the middle-finger of one of the veterinarian appeared a red pea-shaped lump. The lymph node in the elbow was swollen and painful; later also the auxillary lymph node. The whole back of his hand became swollen. After this vanished a pea-shaped knot appeared on the inside of the ankle. This was black-brown in color. This healed in eight days time with alcohol dressings.

In one assistant to the veterinarian a blue-black inflammation occurred on the right ring finger. After two days an ulcer appeared the size of a bean, but this disappeared without treatment. Thereafter his who are became swollen and the lymph nodes became painful. This man went on sick call and was immediately transferred to an army hospital. The diagnosis was Panaritium cutaneum with lymphagitis. He was treated with 10 ml. Prontosil, alcohol plasters and the arm elevated. No puss could be drained after incission. Healing occurred in two weeks time.

A horse handler received a pea-like know on his left hand small finger. Ichtchyol and alcohol were applied immediately and the inflammation of the arm subsided. Healing occurred in eight days.

Since that time rubber gloves were used in examining the mouth cavity, and no further illnesses of humans have occurred.

Figure 1

Lesions on the tongue; knots and ulcerations on the lips and in the area of the mouth.