“HOOF WOODPECKER” AT CORONARY BAND AND HOOF WALL LEVEL IN FORESTRY ENVIRONMENT WORKING HORSES

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Abstract

Hoof woodpeckers or penetrating foreign bodies in the hoof are frequently found in working horses. A special pathology is encountered in horses that work in forestry environment. Unlike the metallic foreign body (so-called clou de rue) that just penetrate the sole, the wood goes in by hammering (by sudden pressure). Movement between the hoof and the 3rd phalanx causes the foreign body to advance in depth.

The study was carried out on a number of 54 working horses in the forestry environment, males, aged between 4 and 14 years. The diagnosis was established on the basis of the clinical examination and the history, the radiological examination being inconclusive.

As a particularity, the fragmentation of wooden foreign bodies does not occur at the time of extraction but at the time of hammering through the hard tissues due to the forces that determine the change of the penetration trajectory.

Restraint was achieved by physical and chemical means (sedation and anesthesia). The wound was cleaned and then the hole in the hoof wall was widened with the help of the hoof knife. The foreign body was extracted using a thick forceps or a dental extraction forceps.

The dressing was changed every 48h until healing. The wound had been washed with potassium permanganate solution (KMnO₄) or betadine 10%.

Key words: wood foreign body, hoof woodpecker, horse

INTRODUCTION

A special situation is encountered in the case of horses working in the sylvatic environment. During movement among branches, when the horse lifts its leg to move forward, the leg can get trapped in branches. When the leg is pulled up, splinters can implant at the level of the crown or horn box, between the 3rd phalanx and the horn box separating the dermal lamella from the epidermal lamellae of the hoof wall.

Unlike the metal foreign body that just penetrate the horn box, the wood goes in by knocking (by sudden pressure). Movement between the horn box and the 3rd phalanx causes the foreign body to advance in depth. Because of this, we will call this type of foreign body hoof woodpecker because they peck into the hoof and can get deeper and deeper as the horse is walking.

These accidents are characterized by the fact that the animal manages to break the foreign body. Always the foreign body breaks off at the external limit, the hole then covered or masked by the coronal or furcal elastic tissue which returns to its place, often leaving only the penetrating wound with the foreign body under the horn box. Because horses are used for heavy work, they often do not express acute pain. Lameness usually appearing after the animal is allowed to take a break.

MATERIAL AND METHOD

Within the MARGIVET veterinary clinic in Margineza commune, Suceava county, over a period of 20 years, a total number of 1500 horses were presented, one third of which were working horses in the forestry environment. From the 502 forest horses, a number of 54 horses included in this study because they presented wood foreign body at the level of the hoof (Hoof woodpeckers).

From the total number of cases, only the horses that worked in the forest and presented foreign bodies at the level of the limbs were considered.

In all cases, only males were presented, and of the 54 horses, only 2 were stallions. For work in the forest, horses that have reached physical maturity are preferred because they have to carry heavy loads. Geldings are preferred because they are more docile than stallions. The age of the horses was between 4 and 14 years averaging 8 years.

During clinical examination, penetrating wounds were observed on the limping limb in all cases. The wounds are small, often covered by hair or soil. In many cases the wounds were also

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covered with blue antibiotic spray because the owner thought it was laminitis. The size of the wound is directly proportional to its location.

Wounds located in the hoof or crown region are small in size, marked by the presence of blood and local sensitivity. Wounds located proximal to the body are large, easy to notice.

The radiological examination was inconclusive. There is a radiological similarity of the appearance of the wood to the surrounding tissues making it hard to distinguish between the two. The exam can be used with the introduction of contrast material to highlight the depth of the wound, but this technique favors greater contamination of the wound.

Following the clinical examination, after locating the entry point of the foreign body, surgical extraction was advised.

Depending on the severity of the wound, the anesthetic protocol required restraint or sedation and local anesthesia or general anesthesia. The affected limb was restrained with a rope tied at the level of the fetlock, which was then passed through a metal ring that was tied to the horse's tail.

In figure 1 and figure 2 you can see the entry wound of the foreign body, evident in these cases due to the blood staining of the hair.

In figure 3 and figure 4 show the discrete appearance of wounds that are difficult to see on clinical examination. In figure 3 the entrance wound is tremendously small and it is extremely easy to miss during the clinical inspection. In this cases the horse will show pain during palpation and this will help to pinpoint the hoof woodpecker. In figure 4 the hoof woodpecker is also easy to miss. Although it is penetrating the hoof and is a different color, it is covered by hair making it difficult do see upon inspection.
To widen the entrance wound, the hoof knife was used at first. Figure 5 shows the hoof after the hoof knife was used to expand the hoof woodpecker wound. In some cases, when the widening of the entrance with the hook knife wound would not suffice, a bone chisel was used.

Figure 6 shows the removal of the foreign body with forceps. The characteristic of this surgery is that because of the fragility of the wood and its ability to be lodged in the adjacent tissues through chips, extreme care must be employed. For this reason, the technique requires debridement with the help of a hook knife and a bone chisel around the foreign body.

Pulling on the visible end of the splinter without losing it at first is not recommended as it will cause pain to the animal and will result in the splintering of the wood piece that anchors as an arrowhead.

Equine dental extraction forceps or a thick forceps are preferred for extraction. Hemostatic forceps usually break.

In figure 7, the foreign body can be seen after it was completely removed. The entry wound is visible behind the hoof woodpecker. In this case, because the wound was in the hoof, no clipping of the hair was needed. It is enough to clean the hoof. In this case the hoof knife was not used. Instead, a small bone chisel was used to release the hoof woodpecker. The chisel was introduced between the wood and hoof tissues to make sure there will be no splinters left. Also, when using a chisel you can lever the hoof woodpecker in order to remove it from the depth of the wound.
Foreign bodies were also found at the level of the fetlock or pastern.

In this case, the pre-operative preparation required trimming the area as shown in figure 7. After clipping of the hair, the surgical area was washed using potassium permanganate solution (KMnO4) or betadine 10%.

In order to be able to remove the foreign body from the feetlock or the pastern, it was necessary to widen the woodpecking entrance wound with the help of a scalpel and to make a surgical incision on the other side of the limb to extract the tip of the foreign body.

Figure 8 shows the contaminated appearance of the wound after the removal of the foreign body. In this case the foreign body was removed on 2 different days. In figure 9, you can see that the woodpecker was long enough, about 7 cm, and it split into 3 pieces. Two large pieces that were removed on the first day, one by one. The larger piece of wood was removed using dental
these accidents occur due to advancing through injuries on the dorsal (75.93%) aspect of the leg. In 34 (62.96%) cases the penetrating foreign body was on the lateral of the limb and 20 (37.04%) cases brought in the foreign body on the medial aspect of the limb. The high incidence of wounds on the lateral face is explained by the fact that when stepping, horses bring the leg eccentrically as they lift it off the ground and then bring it back concentrically. Initially they penetrate concentrically, and then change their trajectory and advance eccentrically.

Initially they penetrate concentrically, and then change their trajectory and advance eccentrically. Penetration forces are high because the horse steps on its leg and help to move the wood foreign body (green) deeper into the tissues. Because wood foreign bodies are fragile, they usually break at the level of the skin or hoof. The fragmentation of wood foreign bodies does not occur at the time of removal, but at the time of penetration through the hard tissues due to the forces that change the penetration trajectory. Initially they penetrate concentrically, and then change their trajectory and advance eccentrically.

Penetration forces are high because the horse steps on the branches and sinks the hoof between the branches. When he lifts his leg the branches will change their trajectory and advance eccentrically. Initially they penetrate concentrically, and then change their trajectory and advance eccentrically. Penetration forces are high because the horse steps on the branches and sinks the hoof between the branches. When he lifts his leg the branches will change their trajectory and advance eccentrically. Initially they penetrate concentrically, and then change their trajectory and advance eccentrically.

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with KMnO₄ (potassium permanganate) or 10% betadine solution.

Usually, general treatment was carried out by antibiotic therapy and tetanus prophylaxis.

CONCLUSIONS

Working horses in the sylvatic environment are specimens that have common features associated with the type of work they perform. They are males, usually geldings, aged between 4 and 14 years, with an average of 8 years.

Hoof woodpeckers are unique in the way they behave. Once they penetrated between the hoof and the 3rd phalanx they make headway between two hard planes. They can break into pieces between the 2 planes due to the change in trajectory and usually break at the entry wound.

To extract them, debridement of the area is needed with the help of the hoof knife and the orthopedic chisel. Extraction is usually done with horse tooth extraction pliers or thick forceps.

Post-operative treatment consists of tetanus prophylaxis, general antibiotic therapy, dressing change every 48 hours and wound washing.

REFERENCES


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