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Osteochondritis Dissecans: A Common but Complex Disease

"Osteochondrosis is a disease in which the cartilage at the end of long bones, such as bones in the leg, fails to develop normally," says Annette McCoy, DVM, PhD, Dipl. ACVS, an equine surgeon at the University of Illinois Veterinary Teaching Hospital in Urbana. "Sometimes this disease results in a fragment of bone or cartilage breaking off on the surface of the joint, and that problem is known as osteochondritis dissecans."

Up to 80% of young horses in some breeds develop osteochondritis dissecans, McCoy says. Although any breed of horse can be affected, Standardbreds and Warmbloods are considered to be predisposed to osteochondritis dissecans.

Any joint can be affected. The joints most commonly affected in horses are the fetlock, hock, and stifle. It is not uncommon to have bilateral disease, meaning in the same joint is affected in both the right and left legs. It is less common, however, to have multiple joints in the same leg affected.

Risk Factors for Disease

What factors contribute to the risk of developing osteochondrosis is the subject of McCoy's research. Environment (including such factors as diet, exercise, and biomechanics) and genetics each play a role in disease development. McCoy is conducting a study that examines how biomechanical differences in gait—pacing vs. trotting—could interact with genetic traits to affect Standardbreds' risk of developing osteochondrosis.

Genetic factors are thought to account for one-fourth to one-half of the disease risk. Some studies have shown that large body size, copper deficiency, high phosphorus intake relative to calcium intake, and irregular exercise are environmental factors associated with osteochondrosis in horses. However, study results are not clear-cut, in part because there are so many interactions among risk factors.

So what is a horse owner to do to limit the risk of this disease?

"The recommendation for owners is to feed a balanced diet, with appropriate mineral ratios and micronutrients, at a level to support consistent moderate growth, and to allow regular, moderate exercise on even ground," advises McCoy. "Even with the best management, it is likely some foals will still develop osteochondritis dissecans because of genetic factors."

Signs and Diagnosis

The most common clinical sign is joint effusion, meaning too much fluid in the joint, especially soon after the horse has been put to work. Occasionally horses could show mild lameness, but many horses that are diagnosed with this disease do not have any clinical signs.

McCoy says that osteochondritis dissecans is usually diagnosed using X rays to detect fragments in the joint. Ultrasound and fluoroscopy, an imaging method that uses X rays to see movement in real time, can also be helpful in making a diagnosis. When osteochondritis dissecans is identified in one joint, the same joint in the other leg should be checked as well since bilateral disease is common.

"When osteochondritis dissecans is seen in a foal that is less than 6 months old, X rays should be retaken when the horse is older to confirm the problem," McCoy says. "In very young foals the problem may heal spontaneously. In horses older than 11 months, problems noted on X rays should be considered permanent and treatment should be recommended."

Surgical Treatment

In some cases, small fragments of bone or cartilage can be left in place and treated conservatively with anti-inflammatory drugs in the joint. However, for the majority of cases, surgical removal of the fragments using arthroscopy is recommended. Occasionally, surgeons might attempt to reattach very large fragments to the bone rather than remove them.

After a surgical procedure, the horse will require careful attention to the surgery site and strict stall rest for at least the first two weeks. Exercise can typically be increased gradually. Anti-inflammatory medications might be recommended four weeks after surgery. Often times, the horse can return to normal exercise after six weeks.

McCoy says most racehorses and sport horses are able to return to athletic work after surgery. In cases where very large fragments were found or where cartilage damage was observed in the joints, the outcome could be less favorable.

For more information about osteochondritis dissecans in horses, speak with your equine veterinarian.

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