Rattles in foals

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Rattles, a lung infection that affects foals between two and five months of age, is one of the most researched diseases in horses because of the significant effect it can have on foals being reared in intensive situations, such as Thoroughbred breeding farms.

This article by Dr Christine Myers from WestVETS Animal Hospitals and Equine Reproduction Centre, explains what breeders should look out for in their foals, and how this debilitating disease can be treated and, more importantly, prevented.

‘Rattles’ is the name given to a lung infection (bacterial pneumonia) in foals caused by the bacteria Rhodococcus equi (R. equi). The name ‘Rattles’ derives from the rattling sound a sick foal can make while trying to breathe with pus in the lungs.

The bacteria R. equi is tough and can survive in soil. The foal becomes infected when it breathes in the bacteria in dusty environments.

The foal is usually infected in the first few days of life. The foal does not show symptoms for several weeks to months after infection, therefore most foals are between two to five months of age when they become sick. This often coincides with summertime and the heat can significantly worsen the illness.

R. equi causes abscesses (‘balls’ of pus, sometimes larger than a tennis ball) to form in the lungs and they are almost impossible to detect without tests like x-ray and ultrasound. The first obvious symptoms are usually a cough and maybe discharge from the nose.

Many foals do not show any symptoms at all, but some foals can fail to gain weight or lose weight, spike a fever, go off their food, have trouble breathing and even die.

Not all foals will be infected, in fact many will not. It is not yet known exactly why some foals get sick and others do not, but it is related to how the immune system is able to fight the disease.

Breeding farms are particularly at risk because of the high stocking rate of horses. The bacteria is predominantly spread by the horse ingesting it from the soil and, once a property is contaminated, preventing the disease becomes a challenge.

Boosting the foal’s immune system: A plasma product has been produced that is rich in antibodies that help protect the foal against R. equi. The plasma is administered by a veterinarian, a bit like a blood transfusion, preferably when the foal is 24-hours-old, and then 21 days later. There is some controversy, however, about how well the plasma works and whether it is worth the considerable expense.

Early detection

Early detection means the foal can be treated before the disease gets serious, and results in shorter treatment times. Ultrasound is considered the cheapest and most effective screening test for the early detection of abscesses forming in the foal’s chest. Ideally the foals are examined every two weeks from two weeks of age.

Preventing Rattles

Minimising contamination and exposure: Regular manure pick-ups and low stocking densities can decrease how much bacteria is contaminating the environment.

Keeping the foal in a ‘dust-free’ environment also helps. Research has found that foals confined to stables for the first 2-4 weeks of life are much less likely to develop infections.

A ‘dust-free’ environment can be very challenging on large breeding farms, especially when the foals are born toward the end of a dry winter and spring when there is not much grass around.

When to call the vet

- If your foal develops a cough that doesn’t go away after 1-2 days.
- If your foal has a cough and a snotty (mucous and/or pus) nasal discharge.
- If your foal is not interested in nursing or eating or has labored breathing (increased rate and effort of breathing).
- If you are able to take the foal’s temperature, and it is greater than 39°C.
Treatment

Some recent large studies on farms in South America have shown that for small abscesses (less than 2cm), antibiotic treatment may not be necessary. Feals that were not given antibiotics healed as quickly as foals that were administered antibiotics.

For foals with large abscesses that are showing symptoms like coughing and weight loss, treatment involves daily administration of two different types of antibiotics as a paste into the foal’s mouth, for a period of between one to six months (until the abscesses have disappeared on ultrasound, then continued for several weeks afterward).

The antibiotics are usually a combination of rifampin and one of either erythromycin, clarithromycin or azithromycin. Erythromycin, clarithromycin and azithromycin can cause diarrhea in an adult horse if accidentally ingested - sometimes severe and life-threatening. Care must be taken to wipe away any antibiotics from the outside of the foal’s mouth so the mare does not accidentally ingest the antibiotic, either directly from the foal’s mouth or when it washes off in the drinking water.

Other infections by R. equi

Occasionally we see Rhodococcus equi causing different problems in foals, such as:

- Abscesses in other parts of the body, including the intestine, liver, joints, hones and brain.
- Excessive and abnormal stimulation of the immune system causing inflammation of the joints, muscles, internal lymph nodes and eyes.

It is rare to see R. equi infections in an adult horse. When it does occur it usually points to a problem with that adult horses’ immune system.

A recent case

One adult mare I saw recently was a rare ancient breed of pony (with a very small gene pool in Australia, which often tends to immune deficiencies). This mare had small but deep abscesses covering her hind legs and belly. The infection had not responded to penicillin antibiotics, like most skin infections would. This mare had a three-month-old foal at foot that had recently developed a cough. Both mare and foal were diagnosed with Rhodococcus equi infections.

It is important to note that humans with immune deficiencies can also be susceptible R. equi infections and biosecurity measures should always be applied when dealing with a sick horse.

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