



Retained Placentas and How to Treat Them

Learn about the causes and treatment options for retained placentas in your cow herd.

by Heather Smith Thomas

Most cows “clean” soon after calving, shedding placental membranes within two to 12 hours. If it takes longer than 12 hours, it is called a retained placenta, according to Russ Daly, Ph.D., South Dakota State University Extension veterinarian. “When I was in practice we didn’t consider doing any kind of intervention until the placenta had been retained up to 72 hours, but our understanding of how to best treat these issues has changed,” he says.

Risks

Bill Lias, Ph.D., Interstate Vet Clinic, Brandon, S.D., says veterinarians used to recommend removing the placenta if a cow didn’t clean within a day or so, but research has shown it’s better to leave it alone. “When I graduated from veterinary school, standard practice was to remove those placentas,” he explains, “but in recent years we’ve discovered it’s a risk to the health of the cow and her future fertility.”

He says he still get calls occasionally from people wanting him to clean a cow, and he has to explain to them why that is not the best option. There is always risk for damage to the attachment sites when trying to remove those membranes. The placenta interfaces with the uterine lining, and the caruncles in the uterus attach to the cotyledons of the placenta. A cow has a certain number of caruncles, and if any of those are torn off, they do not regenerate. Because a fair

number of caruncles are required to support a pregnancy, it is not wise to manually remove the placenta and risk damage.

“We also run the risk of introducing more contaminants into the uterus when we go in to remove the placenta,” Lias notes. “The standard today, and recommendation to producers, is to leave those cows alone, and the majority of them do fine.”

Potential infection

Often no treatment is required. The membranes come away on their own within 10 days, but occasionally a retained placenta can lead to serious infection. “Keep the cow in a clean, dry environment until she sheds those membranes,” he advises. “Some times of year, that’s a challenge.”

In short, the cow is better off in a pasture, moving around, rather than confined in a dirty corral. He says the main complicating factor is introduction of infection when those membranes are hanging out, and she’s lying in manure or mud. The placenta can then act as a wick to bring pathogens into the uterus. Any cow that retains her placenta should be closely monitored to make sure she does not develop an infection. In those situations, the cow will go off feed and have a fever. He notes the uterus can generally handle a local infection and clean itself out, but if the infection goes systemic, the cow will definitely need help.

“Our best advice is to leave the cow alone, in a clean place, and watch her,” Lias says. “Most cows will be fine, but if she starts acting sick, consult a veterinarian. If the cow remains normal, with good appetite, she doesn’t need treatment even if it takes her a week or longer to clean. If they don’t get sick, those cows clean themselves up and rebreed on schedule. Cows are very hardy animals!”

Daly says in the past, veterinarians manually unhooked the attachments and removed the placenta. “We thought we had to get rid of it so the cow wouldn’t get an infection,” he notes. “We’ve learned that this intervention can damage the uterus more than just leaving it alone.”

According to Daly, when the placenta is manually removed, it can delay a functional heat cycle for up to 20 days longer compared with the cows left alone to shed the placenta normally. However, a mild local infection will generally clear up and won’t affect the cow’s ability to rebreed on time.

The important thing is to watch a cow to see if she shows signs of systemic infection — going off feed, being depressed, being lethargic, and having a fever. He advises producers to take her temperature once a day, and if she starts to spike a fever, to get her started on an antibiotic. “You should have a veterinarian examine the cow and recommend treatment,” he continues. “The veterinarian may prescribe systemic antibiotics and possibly some anti-inflammatory medication.”

Treatment

It is better to use systemic antibiotics rather than putting anything into the uterus, according to George Barrington, Ph.D., Washington State University. “A study done years ago by a student here looked at neutrophil migration to the uterus,” Barrington explains. “He found that even putting buffered sterile saline into the uterus slowed down this migration. This suggests that putting anything into the uterus or infusing it with medication could be counterproductive.”

Systemic antibiotics are more beneficial in warding off systemic infections, and they help treat any uterine infection from the retained placenta. However, Barrington says today’s producers



It has been discovered in recent years removing a placenta from a cow is a risk to her health and future fertility.

are limited on which drugs they can utilize. Fortunately, penicillin is still on the table and can help as long as the appropriate withdrawal times are observed.

“Ceftiofur has historically been a good choice due to its wide spectrum,” he explains. “Current label usage includes acute metritis [along with foot rot and respiratory disease] but Excenel, Naxcel and Exceed are all prescription antibiotics available.”

He advises producers to consult with a veterinarian because veterinarians can prescribe an appropriate antibiotic, as well as suggest an appropriate withdrawal period. “If you can’t get hold of a veterinarian, regular procaine penicillin G would be a good drug to use,” he explains. “Stick with the label dosage unless you can talk with a veterinarian to figure out what the withdrawal time would be if they suggest a higher dose.”

It is still important to remember not all cows with a retained placenta contract a serious infection. However, when they are infected, it is not to be taken lightly. Barrington says these infections vary in severity. The result is strongly dependent on the type of infection as well as the cow’s inability to handle it.

He says that is one reason penicillin is a good choice — it is effective against a wide variety of infections. “It works against the anaerobes and gram-positive bacteria like Clostridia,” Barrington explains. “It is not as good against the gram negative bacteria like E. coli, and this is why the ceftiofur antibiotics work very well.”

Antibiotic treatment will only be needed in a few cases, according to Daly. “If people worry about the rotten material hanging out, they could trim that part off and leave the rest to come out on its own,” he says.

In the past, many cows with a retained placenta were also treated with oxytocin or drugs like Lutalyse and prostaglandin after calving. Lias says most of the data today have shown that these treatments are really not very helpful. The bovine uterus is no longer receptive to oxytocin 24 hours after calving, and it has not shown to have much benefit in terms of helping a cow clean.

“Oxytocin is a drug that makes the uterus contract,” Daly explains. “It’s not a long-acting drug. It only lasts a short time in the animal’s system. We’ve found that it doesn’t really do much in terms of hastening the shedding of fetal membranes. Squeezing the uterus doesn’t help that connection deteriorate,” he says.

Barrington agrees cows with a retained placenta usually have more uterine contractions than a normal cow, so it doesn’t really make sense to use oxytocin. If the uterus is contracting and shrinking down on the placental tissue, it may be harder for it to pass through the cervix and on out.

“The body’s own immune system [and the cells within the uterus that digest the inter-digitation, binding the placental tissues to the uterine lining] isn’t functioning properly,” he explains. “This may not occur right at parturition; the body may be setting itself up a few days ahead of calving.”

Causes

Several things may cause a retained placenta, including factors affecting the individual animal as well as herd-based conditions. Infectious causes could include diseases that lead to abortion. Abortions can result in a retained placenta. Any time a cow calves prematurely — an aborted fetus, twins or a premature calf — the placenta generally does not come away normally. It takes time for the attachments to disintegrate and come loose later.

Lias says there are a number of reasons a cow might calve early — an abortion, an infection, a toxic insult, a premature calf or twins. “Nutritional deficiencies can also be a cause,” he explains. “With dairy cows, especially, the cows that are low on calcium or have milk fever have a much higher incidence. Retained placenta has also been linked to vitamin A deficiency, vitamin E and selenium deficiency, and sometimes copper. There may be more nutritional causes than we know.”

According to Barrington, the actual cause occurs at the cell level, involving malfunction in the normal turning loose of the tissue attachments between the maternal and fetal sides of the placenta. However, there are several risk factors that may adversely influence the normal process.

“The exact mechanism for detachment is a bit unclear, but we know that the neutrophils [white blood cells] have to go into these attachment sites and release enzymes that help digest the two sides — the maternal side and the fetal side — so it can release,” he says.

The tissues have to soften up and let go, and Barrington says there is a lot of misunderstanding about how this function works.



While cows will generally clean themselves with time, it is critical to watch them in case they generate an infection that needs treatment.

For instance, some people think the placenta fails to release because of low calcium, but low calcium is only one of many risk factors — not the cause.

“We know that low vitamin E and/or selenium may also create higher risk for retained placenta,” he notes. “Poor nutrition in regards to trace minerals and negative energy balance may all be factors.”

Lias says if producers start to see more than a few incidences of retained placenta without the common and logical causes, they should have their nutritional program evaluated. “Consult with a nutritionist and see if vitamin and mineral levels in

the feed are where they need to be,” he advises. Feed samples and blood samples from the cows can be checked to determine their mineral status.

Other causes for an occasional retained placenta happen when cows are very thin or very fat. Having the cows in proper body condition, with good nutrition and good health, is the best prevention.

Again, Barrington says ranchers often assume that if a cow retains her placenta she has an infection. It is important to remember all cows have a contaminated

uterus after calving. “If we look at any normal cow that calves easily, sheds the placenta on time, and culture the uterus a week after calving, a very high proportion of these cows culture positive,” Barrington explains. There is a big difference between infection and disease, however. An important reason a cow doesn’t clear this infection within a week or so and becomes sick is that her immune system is hindered for some reason.

“Having the placenta in there, if she hasn’t shed it, doesn’t help,” he notes. “When those membranes start to break down, the placental tissue still in the uterus is irritating, and is also a great habitat for pathogens to thrive. We know the normal cow has an infected uterus for at least a week after calving, but these cows don’t go on to develop metritis.” They soon clear the infection and rebreed on schedule. **HW**

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Health precautions for humans

Jim Logan, Ph.D., Wyoming State Veterinarian, says several diseases can cause a retained placenta including Brucellosis. “Sometimes there’s no rhyme or reason that we can figure out regarding a retained placenta — it just happens,” he explains. “The key thing to be aware of is that it could be an infectious cause.”

He encourages producers to keep in mind that precautionary measures when handling an infected cow or placenta are critical. If the cow was aborting because of Brucellosis, for instance, this disease can be spread to other animals and to humans who come into contact with the birth fluids or the aborted fetus or membranes.

“Use protective gloves when handling dystocia or any kind of birth problem, or handling a placenta,” Logan advises. When the fetus is aborted or the placenta is shed, these tissues should always be properly disposed of rather than left lying there, in case it was an infectious situation.

“Be aware of the possibility of zoonotic diseases that could potentially be spread from an aborted fetus or even from a live calf,” he says. “Any placenta — whether it’s retained or one you happen to find — it’s a good idea to properly dispose of it because the placenta can be a source of infection.”

The placenta is also a good diagnostic tool. He says if there is a retained placenta, salvaging that tissue so a sample can be sent to the lab can be helpful. This sample might enable the lab to find bacterial or viral causes of abortion or illness in the newborn calf. “It’s wise to collect those membranes and keep the placenta as clean as you can in case your veterinarian recommends sending a sample for diagnosis,” he stresses. **HW**