Livestock Notes

Mastitis During Lactation - Why Treat?

Ohio State researchers have shown that the average cost of treating a clinical case of mastitis is $110. What does a farmer get in return for the $110?

The answer depends on several factors; type of organism, drugs used, route of administration, age of cow, previous times treated, etc. Many dairymen treat clinical case of mastitis without considering any of the above factors. Let us consider some of the factors necessary to make a yes/no treatment decision.

Factor - Organism Causing The Mastitis Problem:

• Ninety percent (90 percent) of Streptococcus agalactiae infections can be cured with penicillin therapy of the udder during lactation. However, treating an individual cow for Strep. ag. in a Strep. ag. infected herd is a meaningless exercise as the treated cow will become reinfected unless all infected cows are treated, dry treated or sold.

Only ten to twenty percent of Staphylococcus aureus can be cured with intramammary treatment. Some drugs may cure zero. A cure rate of 10-20 percent is no higher than using no treatment (spontaneous cure; cow cures self via leucocytes). Recent research on combination therapy; that is, intramammary plus intravenous or intramuscular therapy, showed an increase in cure rate to maybe 30 percent for Staph. aureua. The combination therapy will increase the cost of treatment. Therefore, cost of treating 10 infected cows is a $1,000 or more with only 1-3 cows being cured; certainly, not cost effective.

• Infections caused by environmental streptococci or coliforms are of a short duration. They usually cause an acute case of mastitis or are cleared from the udder without clinical signs. Some strep infections may persist through the lactation without clinical problems but can be cured with dry treatment. Environmental streps have a 50 percent or less cure reate with lactation therapy. Acute cases signify a threat to the cow but the infection in the udder is past the therapy stage. The cow needs general supportive therapy such as fluids, aspirin and others but not antibiotics. In addition, milk or other secretions need to be removed from the udder on a frequent basis; for example, every 2 hours.

• Infections resulting from yeast, fungi, pseudomonas species, mycoplasms, serratia and others are not treatable.

Conclusion from these 4 facts is very simple; Strep. ag. is the only organism that is treatable with intramammary administration of drugs during lactation. It is a waste of money, time and labor to treat Staph. aureus clinical cases during lactation. The only exception to the previous statement might be a recently fresh two year old where the somatic cell count has just increased. There is a possibility that Staph. aureus has not deeply invaded mammary tissue and may respond to therapy with the cure rate exceeding 30 percent. Staph. aureus infections must be prevented through teat dipping (postmilking), dry cow therapy, segregation of infected cows at milking, early detection of infected cows including fresh two year olds and culling of chronically infected cows. A quarter infected with Staph. aureus that has not responded to lactation or dry period therapy will never respond to any therapy. Older cows with high SCC in 2 or more quarters and a staph problem for 2 lactations are not treatable.

What are the options? Let's define some clinical mastitis examples and recommendations.

Example 1:

Cow 101 is shedding some flakes or garget from the right rear quarter; milk is white, no swelling of quarter, cow's temperature is normal and herd has no history of any Strep. ag. but staph is a concern. My suggestion is to milk out the quarter as completely as possible or milk the quarter/cow several times during the day. Oxytocin used at the end of each milking may assist in the evacuation of more milk. The milking unit should be sanitized after milking cow 101, so infection is not spread to the next cow. Treatment is of no value to solving cow 101's problem nor in solving a herd problem. If several clinical mastitis cases have occurred recently or the clinical rate has changed with season you should ask yourself why is this happening. Your efforts should be aimed at a prevention program and not in trying to find a different drug to treat again. The question concerning cow 101 will be what was her net income to you during the past year Treating a cow for mastitis more than twice during a lactation is futile.

Example 2:

Cow 102 shows flakes and garget from the left rear quarter with some swelling but no rise in body temperature. Action plan is the same as Example 1; milk frequently + oxytocin, isolate during milking but don't treat. If swelling increases and body temperature rises, you may want to consider therapy based on veterinarian's suggestion.

Example 3:

Cow 103 has clinical mastitis that emerged in 8 hours. The right rear quarter is hard and swollen and cow 103 also has a 105°F temperature. It is obvious that cow 103 is in danger. However, by this time most or all of bacteria in the udder have been destroyed. The goal is to stabilize 103 by preventing dehydration and reducing mammary swelling. Administration of fluids (5-10 gallons over 24

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