The Brutus Story...REVISITED

Well the report on Brutus is not good. Brutus produced her last pound of milk on February 10th, and was moved to the dry pen on February 20th to allow Melody to come into the barn to calve. It seems almost not believable that a cow that produced over 40,000 lbs of milk in 395 days in milk and was treated through milk fever; mastitis; ketosis and salmonella enteritis during her last lactation and was treated successfully (based on 4 negative cultures) for klebsiella in 2 quarters with gentocin in the lactation before the last one could be brought back to health currently but with no milk producing ability due to another species of klebsiella. As someone stated so eloquently last week, “we saved the cow, but not the udder”.

So, what questions remain, or need to be added to the list of clinical questions?

1. HOW did Brutus get klebsiella when we haven’t had a case of klebsiella in 1.5 years? She was treated for klebsiella 2 years ago, but the lab confirmed it was eliminated using the current technology. In addition, in over 20 cases of Kelbsiella mastitis, it has been eight years since we’ve seen this particular species.

2. Why didn’t the other 3 quarters produce any milk after February 10th? Admittedly, they each had a 100 cfu of Klebsiella, but we had thought those counts indicated contamination at sampling, hmmm…

3. Five years of mastitis research has shown us that udder character is a better indicator of a quarter returning to healthy production, rather then the character of the milk secretion. In this case, the affected left rear quarter was only moderately inflamed (firm, not hard) and the other 3 were basically empty of any fluid. So, based on udder character Brutus should have come back into milk. So why didn’t she?

Yup, it is cases like this that make clinical medicine is so interesting.

Hopefully we will get smarter, as we obviously do not have all the answers. So what have we learned from Brutus?

First, when you have a peracute reaction, such as Brutus had (severe diarrhea, no milk let down, weak getting up, 120bpm heart rate), one should probably consider IV steroids to go along with the antitbiotics (so you are covered) and supportive therapy. This would certainly help in detoxification of systemic toxins that Brutus needed. Second, this case is yet another illustration that prevention is a whole lot easier to implement, because once the clinical disease reaches this level of severity, treatment becomes very difficult. Especially with the level of technology we can apply in these conditions.

Mooooo

Appreciation

The Teaching Herd cows:
Twinkle (exploratory-JHS; Teat surgery);
Arethra (C-Section);
Swish (Vulva/vaginal reconstruction); Tingel (LDA); Jessica (LDA);
Scarlet (LDA); Griffey (RDA); Gertie (Cecum untwist); Grace (Cecum decompression); and Violet (Teat surgery), would like to thank Large Animal Surgeons (Dr. Edwards; Dr. Santchi; Dr. Prichard and Dr. Livesey) for taking such good care of them, as they now are productive members of the teaching herd.
Put your hand together for Betsy Welty and Stacy Garves who have volunteered to implement the calf feeding, sanitization, weaning, and vaccination program that Dr. Sheila McGuirk has developed. Betsy and Stacy could use some help if there are other students who might be interested. Please give them a holler via e-mail: Stacy Garves [wr_cowgirl@hotmail.com], Betsy Welty [eewelty@students.wisc.edu].

We currently have 6 heifer calves and 2 bull calves. We are feeding them milk replacer (20% protein; 20% fat) along with water and calf starter (grain). We are trying to implement the cleaning of boots (every time when coming from the adult herd into feeding/caring for the calves) for everyone. The calf buckets are labeled so they can be cleaned and returned to the same calf. We feed for no refusal when it comes to the calf starter to ensure fresh feed each day, with minimal wastage.

A short-acting glucocorticoid, such as dexamethasone, is most commonly chosen since it has a reliable interval from treatment to calving, and no effect on the immunoglobulins in milk.

A round of applause

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- We are feeding them milk replacer (20% protein; 20% fat) along with water and calf starter (grain).
- We are trying to implement the cleaning of boots (every time when coming from the adult herd into feeding/caring for the calves) for everyone.
- The calf buckets are labeled so they can be cleaned and returned to the same calf.
- We feed for no refusal when it comes to the calf starter to ensure fresh feed each day, with minimal wastage.
- We attempt to feed/care for the calves from youngest to oldest to minimize transmission of diseases.
- Each calf pen will have new shavings each week with the cleaning and removing of manure at least 3x weekly.
- The herd health rotation will be responsible for the calf health.
- Calves should be weighed at birth and at weaning so we can estimate the rate of gain that we are achieving which will help monitor our feeding procedures.

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Induction with glucocorticoids and prostaglandins is consistently associated with retained placentas (RP), a major reason for cautious utilization. Other possible complications include metritis, calf mortality, and low milk production. Induction can be performed during the last month of gestation, however, it is recommended to induce within the last two weeks to reduce the severity of problems. We decided to induce, feeling that in this case, the benefits outweighed the risk, and we could expect parturition to occur on average 35 hours later (ranging from 24-48 hours).

Diane calved within 24 hours (bull calf), passed her placenta within 4 hours, and appears to be in normal production—based on her initial levels of bucket milk (before she was clean of antibiotics to go in the bulk tank).

Diane calved last week, and on her due date, too! She was experiencing a huge enlargement of her udder for at least 2 weeks, and toward her due date she developed an extreme amount of mammary edema. It was decided to induce her parturition in order to make sure that her udder would not be damaged by further edema, and that her suspensory ligaments would not be compromised.

Parturition in cattle is initiated when the corpus luteum (CL), the major source of progesterone, is removed. Prostaglandins act directly and indirectly on the CL, causing luteolysis, and therefore a drop in the circulating progesterone to less than 1 ng/ml. Glucocorticoids mimic the rise in the maternal cortisol levels prior to calving, which act on the uterus. The endometrial cells are stimulated resulting in increased estrogen and oxytocin, and thus activated receptors on the endometrial cells synthesize and secrete PGF2aa. Therefore, either a prostaglandin or glucocorticoid or a combination of the two are methods of induction. A prostaglandin or glucocorticoid alone induces calving, however, the interval from treatment to calving is increased and more variable, as well as, dystocias and calf mortality. By using the two drugs in combination, the interval from treatment to calving, dystocias and calf mortality are decreased.

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Calcium Question & Answer

Ever consider why we draw blood for calcium levels on all cows in their second lactation or greater? How do we use the data?
1. It gives us a baseline before calving which can help guide therapy.
2. Baseline after initial treatment in risk period 1 (around calving)
3. We can use it to guide therapy:
   a. do we use ca-po4 oral paste as our protocol suggests initially and then every 12 hours for 3 more treatments (covers both risk periods—calving and 2-3 days after calving) or do we just give a total of 2 treatments to cover the risk period around calving.
   b. or do we use other therapy along with the paste such as sub-q calcium and or IV calcium.

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Daily Events

MONDAY

AM: Herd Health Management (623-675): Crew Chief: 2nd yr (Travis Cooper), 1st yr (Travis Kuhlka), pre-vet (Allison Wistrand).

PM: Herd Health Management (623-675): Crew Chief: 2nd yr (Travis Cooper), 1st yr (Travis Kuhlka), pre-vet (Allison Wistrand).

TUESDAY

AM: 4th year Theriogenology rotation (623-699) herd check: Harry Momont/Bill Bosu, 4th yr. students, & pre-vet Kerry Hagen.
  ➢ Bleeding opportunity to tail bleed cows for Chuck Czuprynski’s laboratory.

PM: Dairy Herd Improvement Association (DHIA) monthly testing.

Herd Health Management (623-675): Crew Chief: 2nd yr (Travis Cooper), 1st yr (Travis Kuhlka), pre-vet (Allison Wistrand).

WEDNESDAY

AM: LAIM (a.k.a. Laura Lien) will be sending a 4th year student to tail bleed for Chuck Czuprynski’s and laboratory and exam any sick cows.

PM: Herd Health Management (623-675): Crew Chief: 2nd yr (Travis Cooper), 1st yr (Travis Kuhlka), pre-vet (Allison Wistrand).

THURSDAY

AM: Herd Health Management (623-675): Crew Chief: 2nd yr (Travis Cooper), 1st yr (Travis Kuhlka), pre-vet (Allison Wistrand).

PM: Herd Health Management (623-675): Crew Chief: 2nd yr (Travis Cooper), 1st yr (Travis Kuhlka), pre-vet (Allison Wistrand).

FRIDAY

AM: 7:30am: Management meeting for the teaching herd management team.

PM: Herd Health Management (623-675): Crew Chief: 2nd yr (Travis Cooper), 1st yr (Travis Kuhlka).
  ➢ Posilac injections given to eligible cows.

SATURDAY

Herd Health Management-623-675 for Crew Chief-2nd yr (Travis Cooper), 1st yr (Travis Kuhlka).

SUNDAY

Herd Health Management-623-675 for Crew Chief-2nd yr (Travis Cooper), 1st yr (Travis Kuhlka).

Upcoming Events

Cows and heifers due in the next month

<table>
<thead>
<tr>
<th>Cow/Heifer</th>
<th>Due Date / Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tina</td>
<td>2/06 (Heifer - “Turner”)</td>
</tr>
<tr>
<td>Lucy</td>
<td>2/16 (Heifer - “Lucky”)</td>
</tr>
<tr>
<td>Diane</td>
<td>2/17 (Bull)</td>
</tr>
<tr>
<td>Greta</td>
<td>2/12 (Heifer - “Gina”)</td>
</tr>
<tr>
<td>Violet</td>
<td>2/18 (Bull)</td>
</tr>
<tr>
<td>Julie</td>
<td>2/21 (Bull)</td>
</tr>
<tr>
<td>Melody</td>
<td>3/01</td>
</tr>
<tr>
<td>Jessica</td>
<td>3/01</td>
</tr>
<tr>
<td>Katrina</td>
<td>3/26</td>
</tr>
<tr>
<td>Cookie</td>
<td>4/02</td>
</tr>
<tr>
<td>Swash</td>
<td>4/06</td>
</tr>
</tbody>
</table>

Well, well, well...

All that singing in the church choir has certainly changed Dave’s luck! We now have 6 heifers & 2 bull calves in our care!
Production and Milk Quality Summary
(updated Feb. 23, 2004)

- The herd continues to milk an average of 92 lbs/cow of Adjusted Corrected Milk (ACM). *(ACM is a calculation that standardizes milk to 3.5% fat content, produced by a 3rd lactation cow at 150 DIM.)*
- Approximately 43 cows are producing 3650 lbs/day (85 lbs/cow/day). This is approximately 79 lbs per stall—better than our breakeven production level of 68 lbs! (Good job!)
- The herd’s butterfat has averaged 3.58%. The protein has averaged 3.08%.
- Dry Matter intake is at 53 lbs per cow.
- Bulk tank SCC is at 200,000 with a SPC of 1000 for January.

Employment Opportunities

- If you are interested in gaining experience with dairy cows, we have the opportunity for you. You can join the milking crew at the Charmany Teaching Facility and work the AM or PM milking shifts. Weekday shifts are from 5:00 am to 7:00 am and from 4:30 pm to 8:30 pm. Weekend shifts are from 5:00 am to 12:00 pm and from 4:30 pm to 8:30 pm. Interested students should contact Dr. Bill Goodger at 770-1448.
- Further note on employment is that we can save 50% in student salary expenses (about $20,000 per year) if students apply for work study (about 90% of veterinary students are probably eligible). These added funds would not only allow more students to access to the herd, but would also provide support for clinics, projects, and clinical upgrades to our facility which would enhance the experience for all students. Below is information about work study from the CAMPUS work study office in financial aid.

**The Work-Study Program** does not determine where you work. It is up to you to determine where you’d like to work and what type of work you’d be interested in. The Federal Work-Study Program (FWSP) employee’s will be glad to discuss with you what your interests are and what employment options are available to you but you will need to contact the employers directly to inquire about job availabilities.

Having accepted Work-Study will benefit you primarily in two ways: first, since employers only pay .50 cents of every dollar earned by a student, work-study students are highly sought after employees and second, any work-study monies earned are not counted and considered as earned income when you apply for next year’s financial aid. Normally a student’s earnings are considered as earned income and your next year’s financial aid award is reduced by that amount.

If you decide to work On-Campus, ANY job at the UW automatically qualifies as a work-study position. You should always let a UW-employer know that you have accepted a work-study award, because again, it makes you an even more desirable hire to them. Having said this, some UW employers require that you have work-study. These listing can be found under the “UWWR” section.

Projects

- See Kerry Hagen for the schedule of cows that need to be vaccinated (J-5 and Scourgard).
- Sara Gilbertson is now doing the body condition scoring and could always use some help.
- Allison Wistrand is taking a 699 directed study on Sick cow physical examinations
- Kerry Hagen is taking a 699 directed study on implementing the OVSYNCH breeding protocol.
- Betsy Welty and Stacy Garves are implementing the calf management system.
- Jodi Woods is editing the newsletter