

Resume of a Cow-Calf Program Involving 100 Caesarean Sections

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Our practice performed approximately 100 caesarean sections on first-calf heifers pregnant with embryo transplants. We performed surgery eighteen hours following induction with 6 mg of estradiol and 20 mg of dexamethasone. Six cc of oxytocin was given after closure of the uterus and three hours post surgical. Most of these heifers were within five days of parturition and exhibited good udder development and the usual signs of parturition. Within 12 to 18 hours after preoperative treatment, these signs had reduced significantly. The udder was reduced in size. Most of the animals gave less than a quart of colostrum or none. Relaxation at the tail head and vulvular area appeared reduced. Within twelve hours after surgery, most animals started to expel their placenta. Almost 100% of them needed treatment for retained placentas. I was unable to enter the vaginal area manually. My treatment of choice was a minimum of 500 cc 4% lugols on a weekly basis, using 6 to 7 cc estradiol cypionate 10 days postpartum and on a 14-day interval if needed. In many cases, mothering of these calves became a problem. Each dam was given 20 cc penicillin/streptomycin post operatively for three days. After completing approximately 20 caesarean sections, this program was discontinued. Sections were performed at the onset of labor. Postpartum problems with the dam were minimal. In most cases an adequate supply of colostrum (one to one and one-half quarts) was available from the dam.

Calf care of the caesarean section calf was done in the following manner. We maintained a frozen colostrum bank of first-day colostrum milk. It goes without saying that cleanliness and sanitation is of the utmost importance in handling these calves. Sanitized rubber gloves were used by the attendants until the following procedures were performed: 1) Iodine on the navel before putting calf in clean bedded stall; 2) Colostrum (1-1½ qt.) within 15 minutes after birth, given by nipple bottle if possible; 3) Nasalgen vaccine; 4) Reo Vac; 5) 10 cc BCD antitoxin; 6) 1 cc ADE; 7) 3½ cc BOSE selenium and vitamin E (Ohio is deficient in selenium); 8) 20 cc Serogen L.A.; and 9) Write up a complete chart and place in front of the cow and calf with room for daily history taking and recording temperatures. Calf body temperatures were recorded every 12 hours for at least 10 days postpartum.

At this time I would like to make reference to the 15-minute time period for giving colostrum. Dr. I. E. Selman, Glasgow University Veterinary School, wrote an article and gave data showing that the amount of colostrum given and the time after birth definitely influenced the amount absorbed. The longer the calf was deprived of colostrum, the fewer

immune globulins developed. The amount is reduced by almost half after the first hour. Another article written by A. J. Husband, M. R. Brandon, and A. K. Lascelles states that corticosteroid treatment of cows induced early parturition and inhibited intestinal absorption of immunoglobulins. For the treated calves the efficiency of absorption for each immunoglobulin was half that for the untreated calves.

Case Reference: An electroporesis was run on a known case where the calf received an inadequate amount of colostrum the first 24 hours and compared with a calf receiving an adequate amount of colostrum. The gamma globulin of the deprived calf was half that of the normal calf. In this case we transfused one gallon of plasma and obtained gratifying results.

A very important part of our calf care was the periodic temperature recording. This, if nothing else, got the help inside the stall for a closer look at the calf. In most cases, if a significant rise in temperature was recorded, we could predict this calf was going to develop diarrhea, if not already present, within a few hours (four to six to be exact). We had no respiratory problems in the first three months of life.

We did develop an outbreak of colibacillosis confirmed by culture and sensitivity. I do not like to treat diarrheas without cultures and sensitivities. We use bacteria assay plates. I am sorry to say most drugs of choice are useless. Supportive treatment is of utmost importance. Discontinue milk for 24 to 48 hours. We gave electrolyte solution at the rate of approximately 10% of the body weight if the calf was not dehydrated. I found that most calves will take electrolytes with dextrose (Eltrads 4000) if a sucking reflex is present from a nipple bottle. If the calf is dehydrated and the temperature is subnormal, we give I.V. electrolytes, Entosol 10X qs 10% dextrose and distilled water for the first gallon of fluids; then 5% dextrose and electrolytes until the calf has a good sucking reflex and the diarrhea condition has improved. In very severe cases, 1000 ml of whole blood was given prior to electrolytes. Oral feeding consisted of electrolytes by nipple bottle for 12 to 24 hours. The rule of thumb is 10% of body weight in divided feedings. After straight electrolytes, add milk at 10 to 15% increase with electrolytes with each feeding until the calf is on whole milk.

Drug therapy consisted of systemic antibiotic treatment along with an oral sulfa or Nolvasan. If a calf's temperature is below 96°, forget it.

I would like to cite the history on 12 calves which were removed from their dams immediately after surgery to a new isolated area. After 48 hours of colostrum feeding, these calves were fed whole milk at the rate of 10% of their body weight daily for eight weeks by nipple bottles along with free choice water, legume hay, and calf startena. They were switched to powdered milk gradually after eight weeks until weaned. Their rate of gain averaged 2 to 3 lbs. per day. These calves remained healthy with no complications.