

## 7 Summary

Efficacy of a metaphylactic systemic antibiotic treatment of dairy cows with retained fetal membranes.

In a field trial conducted on a dairy farm in Mecklenburg-Vorpommern, Germany, two protocols for the treatment of retained fetal membranes with a systemic administration of ceftiofur were compared. Cows that retained the fetal membranes for more than 24 hours were randomly assigned to one of two treatment groups. No attempts of manual removal of the membranes and no intrauterine treatments were made in neither of the two groups.

During the first ten days following enrollment rectal temperature was measured daily. Fever was defined as a rectal temperature  $\geq 39.5$  °C.

In group A (n = 60) all animals were treated systemically after enrollment intramuscularly with ceftiofur (Excenel RTU<sup>®</sup>) in a dosage of 1 mg/kg body mass.

In group B (n = 53) only animals with fever were treated intramuscularly with the systemic antibiotic ceftiofur in a dosage of 1 mg/kg body mass.

The antibiotic was administered on three consecutive days. Animals that were still febrile on the day following the third administration of ceftiofur were treated for up to two more days. Treatment was considered a failure if on the day following the fifth treatment the rectal temperature did not drop below 39.5 °C. Those animals received an escape therapy, i.e. another antibiotic.

A control group (n = 113) consisted of animals without retained fetal membranes. An animal of the same lactation stage which had calved within 24 h days before or after a study animal was enrolled. Control animals received no antibiotic administration during the first ten days following calving.

All animals were treated with two subcutaneous injections of 25 mg of dinoprost (Dinolitic<sup>®</sup>) on days 18 to 24 and 32 to 38 post partum. On day 32 to 38 post partum groups A and B were examined by rectal palpation to detect the rate of animals with chronic endometritis.

The voluntary waiting period was set at 42 days. All animals that had not been inseminated or had been diagnosed as not pregnant until day 80 post partum received an Ovsynch protocol.

The two treatment protocols did not differ with regard to the proportion of animals with fever, endometritis or the number of animals that left the herd (group A: 71.7 %, 29.4 % resp. 40.0 %; group B: 69.8 %, 18.8 % resp. 34.0 %). The treatment of cows with ceftiofur only in case of fever (group B) led to higher conception rates (38.9 % vs. 25.0 %) and a higher

proportion of pregnant animals (66.0 % vs. 60.0 %). Compared to groups A and B the control group had a higher number of pregnant animals (74.3 %). The conception rate of the control group (36.2 %) was higher than in group A and almost identical to group B.

The treatment of retained fetal membranes by an immediate application of ceftiofur led to a higher drug consumption rate. Based on the results we conclude that the immediate systemic application of ceftiofur regardless of body temperature has no advantages in treating retained fetal membranes. Therefore this strategy cannot be advised for use in veterinary practice.