Comparative efficacy of a single administration of a combination of florfenicol and meloxicam with florfenicol alone in naturally occurring cases of respiratory disease in young cattle

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Objective

Treatment of bovine respiratory disease (BRD) classically rely upon administration of a systemic antimicrobial targeting Gram-negative bacteria. Addition of a nonsteroidal anti-inflammatory drugs has proven to mitigate the inflammatory response and to rapidly improve the clinical condition of affected animals. Recently, a florfenicol and meloxicam combination was developed (Zeleris®, Ceva Santé Animale). To assess the efficacy of this combination in the field and to precise the benefits of combining meloxicam with florfenicol, a comparative field trial with a florfenicol-based product (Nuflor® 300, MSD) was carry out.

Materials and methods

329 young cattle were enrolled in a multicenter study performed in field conditions. Calves were included if they displayed a rectal temperature (RT) ≥ 40°C and a sum of clinical scores (CS) > 2. Calves were randomly allocated to one of the two groups and treated with Zeleris® or Nuflor®300 once subcutaneously according to manufacturer's instructions. Calves were observed for 30 days and monitored for clinical signs (respiratory and behavioral scores) and rectal temperatures.

Results

• 7 days after treatment, 93.9% of animals treated with Zeleris® were cured compared to 88.5% of animals treated with florfenicol alone (P=0.119).

• 6 hours post-treatment, calves receiving Zeleris® had a lower RT than calves treated with Nuflor®300 (**39.4°C vs. 39.9°C**, P<0.001). Moreover, 53% of the cattle that received Zeleris® had a normal RT 6 hours post-treatment while 83% of cattle treated with Nuflor®300 were still affected by fever (figure 1). Superiority of Zeleris® over Nuflor®300 was maintained for 48 hours after treatment for the control of fever (P=0.044).

• A higher number of calves showed an improvement in their CS as soon as 6h after treatment with Zeleris® compared to Nuflor®300 and up to day 3 (figure 2).

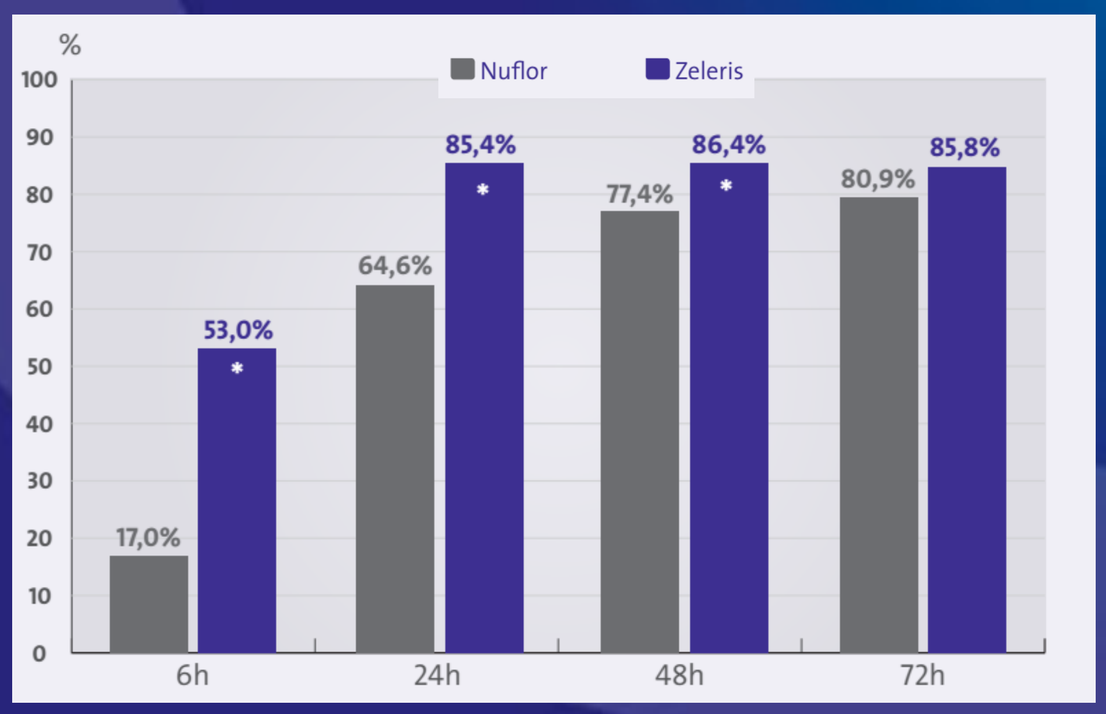

Figure 1. Percentage of calves without fever after Zeleris® or Nuflor®300 administration. A star indicates a statistically significant difference between Zeleris® and Nuflor® 300 (P<0.05).

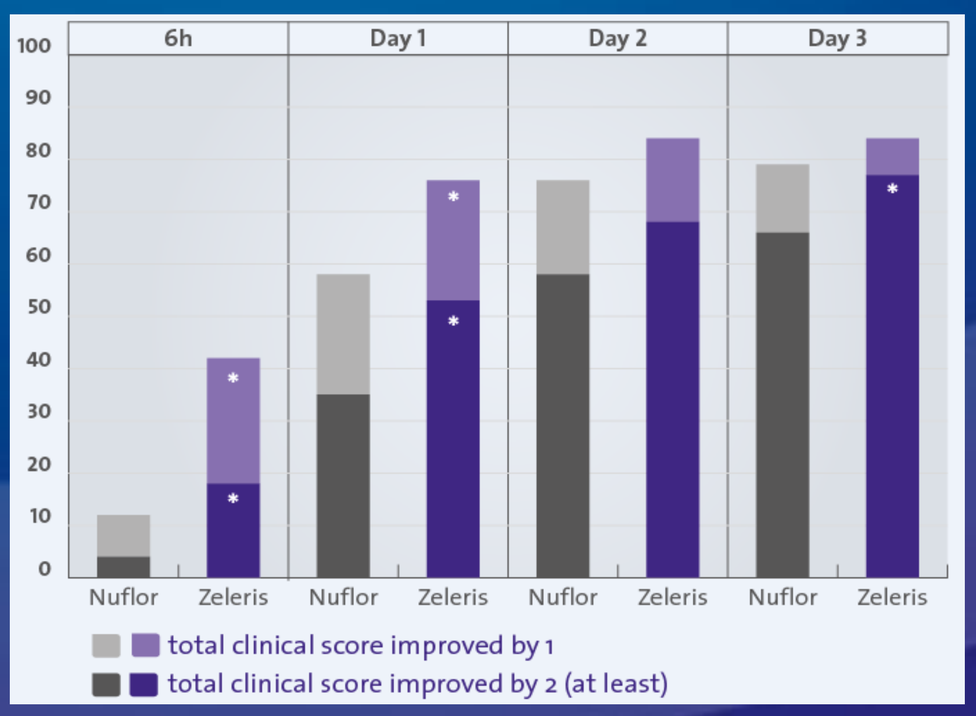

Figure 2. Percentage of clinically improved calves (one or at least 2 points in CS). A star indicates a statistically significant difference between Zeleris® and Nuflor® 300 (P<0.05).

Conclusions

In field conditions, Zeleris® achieved significant better performances than Nuflor®300 for the control of fever (until 48h after treatment) and for the clinical recovery (until 72h after treatment). These results are in line with current recommendation to take in consideration inflammation for the treatment of BRD.