Efficacy of short versus long duration of treatment with cefquinome of clinical Staphylococcus aureus mastitis

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The cure of clinical S. aureus (SA) mastitis is reported to be poor and can potentially be improved by extending the therapy duration. Therefore, in a multi-centre randomized field study (France, Italy, Hungary, UK and The Netherlands), the efficacy of the in Europe frequently used registered intramammary treatment regime of cefquinome (Cobactan® LC, 3 infusions with 12 hours interval, group A, 1.5 day), was compared to prolonged treatment with 2 infusions with 12 hours interval on day 0 followed by 4 infusions every 24 hours (group B, 5 day). Cows with clinical MASTITIS in one quarter were included and allocated randomly to treatment groups. Bacteriological analysis was performed before infusion on day 0 and between 14 and 28 days post treatment. SCCs were determined from the last milk sample after treatment. Only if SA was present on day 0, the cow was retained in the study. Efficacy was assessed using bacteriological cure rate (BC) (elimination of SA), and clinical cure rate (affected quarter with normal milk and no signs of clinical MASTITIS post treatment). In total, 92 SA cases were treated during 1.5 days and 114 SA cases during 5 days. Groups were homogenous for both herd and cow factors on day 0. The BC was 33.3 % and 33.0 % in group A and B, respectively. The respective clinical cure rates were 61.9 % and 69.4 %. Both cure rates were not significantly different between treatment groups. In bacteriologically cured animals, SCCs after treatment were 776.000 and 445.000 cells/ml in group A and B, respectively (p=0.024). Since a positive correlation between treatment duration and cure was expected, potential confounders (herd and cow factors) were investigated. There was an apparent impact of herd size and milk production on BC. Herd sizes from 23 to 117, 118 to 200 and 201 to 1000 cows had cure rates of 30.4 %, 52.7 % and 16.7 %, respectively. Animals with a milk production of 9 to 23 L/day, 24 to 30 L/day and 31 to 50 L/day had cure rates of 15.9 %, 47.6 % and 38.5 %, respectively. Cow historical SCC had an impact on BC, irrespective of treatment duration. In low SCC (< 250.000 cells/ml) animals (suspected acute infections) BC was 53.3 % while in high SCC (>250.000 cells/ml) animals (suspected chronic infections), cure was 23.7 % (p = 0.001). This study shows that a prolonged duration of treatment with cefquinome does not affect cure of clinical SA mastitis but it is likely that duration of infection does affect cure.