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COMPARISON OF DIFFERENT STANDARD VALUES TO MEASURE ANTIMICROBIAL DRUG USE IN PIGS

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Introduction

Based on the proposal by the ESVAC project (EMA), we developed Defined Daily Doses (DDD_{ch}) and Defined Course Doses (DCD_{ch}) for Switzerland as technical units to collect data on antimicrobial consumption. DDD_{ch} and DCD_{ch} were compared to the DDD_{vet} and DCD_{vet} recently published by the EMA.

Material & Methods

DDD_{ch} and DCD_{ch} were defined for all drugs containing antimicrobial ingredients and approved for pigs in Switzerland. DDD_{ch} were defined by using the highest authorized daily dosage according to the national Summaries of Product Characteristics (SPC). DCD_{ch} were calculated by multiplying the corresponding DDD_{ch} unit with the maximum treatment duration as presented by the SPCs.

DDD_{ch}/DDD_{vet} as well as DCD_{ch}/DCD_{vet} were compared by calculating the ratios of corresponding values for each product. The influence of dosage form or number of active components in a single product on these ratios was analyzed.

Results

92 approved products containing antibiotics were included in the study and 118 ratios were calculated.

Although the mean ratio was 1.05 for the DDD_{ch}/DDD_{vet} ratios and 0.93 for the DCD_{ch}/DCD_{vet} ratios, 35 corresponding values for the DDD_{ch}/DDD_{vet} ratios and 44 values for the DCD_{ch}/DCD_{vet} ratios showed a deviation of more than 20%.

Injectables showed a significant higher DDD_{ch}/DDD_{vet} ratio (1.16) than premixes (0.81) ($p=0.02$). Daily dosages in Switzerland are lower than EMA values when ingredients are combined in one product whereas higher dosages were found for single ingredient products in Switzerland ($p<0.01$). None of these effects could be observed concerning DCD_{ch}/DCD_{vet} .

Conclusion

The newly defined values DDD_{ch} and DCD_{ch} partly show considerable differences to the published DDD_{vet} and DCD_{vet} . The great benefit of DDD_{vet} and DCD_{vet} for international comparison is undisputed, but we propose the use of nationally defined units for more accurate national monitoring of antimicrobial usage.