Avoparcin used as a growth promoter is associated with the occurrence of vancomycin-resistant Enterococcus faecium on Danish poultry and pig farms

We determined the association between the use of the glycopeptide antibiotic avoparcin as a growth promoter and the occurrence of Enterococcus faecium (VREF) with high-level resistance to vancomycin (MIC greater than or equal to 64 μg ml(-1)) on poultry and pig farms. The investigations were conducted as retrospective cohort studies, where groups of farms exposed or not exposed to avoparcin between September 1994 and April 1995 were compared. In poultry, the association between the use of avoparcin and the occurrence of VREF was confounded by the use of broad-spectrum antibiotics, and the adjusted relative risk was 2.9 (1.4-5.9). In pigs, the association had a similar magnitude with a non-adjusted relative risk of 3.3 (0.9-12.3). The similar findings in the two studies provide evidence in favour of a causal association between the use of avoparcin and the occurrence of VREF on farms, and suggest that food animals constitute a potential reservoir of infection for VREF in humans.