Impact of salinomycin on the intestinal microflora of broiler chickens

Background: The ionophoric coccidiostat salinomycin is widely used in chicken feed. In the near future the use of ionophore coccidiostats may be banned as has been the case for other antimicrobial growth promoters. This study was conducted to examine the effect of salinomycin on Campylobacter jejuni infection and on the composition of the caecal microflora in broiler chickens. Methods: An experimental infection study was carried out in isolators and the intestinal microflora was analyzed using quantitative cultivation, denaturant gradient gel electrophoresis (DGGE), cloning and sequencing. Results: We found no effect of salinomycin on C. jejuni but salinomycin significantly affected the composition of the microflora. In addition, salinomycin significantly reduced the prevalence of Clostridium perfringens and we observed a significant increase (62%) in the mean body weight of salinomycin treated chickens compared to un-treated controls. Conclusion: Termination of the use of ionophore coccidiostats will not affect food safety related to campylobacter, but will increase the risk of necrotic enteritis in the broilers.