Susceptibility of Escherichia coli and Enterococcus faecium isolated from pigs and broiler chickens to tetracycline degradation products and distribution of tetracycline resistance determinants in E-coli from food animals - DTU Orbit (23/12/2018)

Susceptibility of Escherichia coli and Enterococcus faecium isolated from pigs and broiler chickens to tetracycline degradation products and distribution of tetracycline resistance determinants in E-coli from food animals

One hundred Escherichia coli isolates from diseased and healthy pigs, cattle and broiler chickens were screened for the presence of tetracycline resistance genes tet(A), (13), (C), (D) or (E). The tet(A) gene was the most abundant (71% of the 100 isolates) followed by tet(B) (25%). The predominance of tet(A) and tet(B) applied to all three animal species, and there was no difference between the distribution of tet(A) and tet(B) genes among non-pathogenic and pathogenic E. coli in any of the animal species. The susceptibility of 20 of these isolates together with 10 tetracycline sensitive E. coli and 18 tetracycline resistant and 10 sensitive Enterococcus faecium to tetracyclines and tetracycline degradation products was determined. The resistant isolates showed reduced resistance to anhydrotetracycline, 4-epi-anhydrotetracycline, anhydrochlortetracycline and 4-epi-anhydrochlortetracycline. In general both the tetracycline resistant and susceptible E. faecium were more susceptible to the compounds tested than E. coli. (C) 2003 Elsevier B.V.. All rights reserved.

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