Pathogenic and Genetic Characterization of Acriflavine Resistant Erysipelothrix Isolates from Arthritic Pigs


Abstract:

Acriflavine-resistant Erysipelothrix rhusiopathiae isolates, defined as serovar la, from arthritic pigs at slaughter houses in Ishikawa prefecture between 1994 and 1995 were compared pathologically and genetically with acriflavine-fast attenuated strain of E. rhusiopathiae used for live vaccine. Twelve of 18 field isolates were resistant to 0.01 % acriflavine similarly to the vaccine strain. Four of the above 12 isolates showed the pathogenicity for mice similar to the vaccine strain. Only one of 7 isolates representative to the above 12 strains showed the pathogenicity for swine similar to the vaccine strain and an identical pattern with the vaccine strain in pulsed-field gel electrophoresis (PFGE). However, the remaining 6 isolates were more pathogenic for pigs than the vaccine strain and showed 4 patterns different from the vaccine strain in PFGE. The present results indicated the incidence of acriflavine-resistant avirulent E. rhusiopathiae strains in the field and pathological and genetical variety of those strains. An appropriate marker other than acriflavine resistance for the vaccine strain must be established.

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