Pathogenicity for mice and swine of Erysipelothrix isolates from the tonsils of healthy cattle


Abstract:

The pathogenicity of 79 Erysipelothrix isolates from bovine tonsils for mice and swine was determined. Five (6.3%) isolates were lethal for mice. These isolates belonged to serovars 1b (one isolate), 2 (2), 19 (1) and 21 (1). The 50% lethal dose values of the isolates ranged from 0.33 to 5x10^2 CFUs in mice. Twenty Erysipelothrix isolates (25.3%) were weakly virulent inducing only emaciation while 12 (15.2%) inducing emaciation and ruffled hair. In swine, clinical signs of varying severity were observed. Four isolates were virulent, capable of inducing localized or generalized urticarial lesions accompanied with a rise in body temperature after intradermal inoculation. One isolate each of serovars 1b, 2 and 19 was highly virulent, capable of inducing generalized urticarial lesions while another Erysipelothrix isolate of serovar 2 induced only a localized urticarial lesion at the site of inoculation. Another isolate of serovar 1b induced itching and irritation without obvious urticarial lesion at the site of inoculation. On the other hand, one isolate of serovar 21 and two other isolates of serovar 2 could not induce experimentally any clinical sign of erysipelas other than rise in body temperature. There was a rise in growth agglutination (GA) titer of serum in all the inoculated swine. These observations suggest that Erysipelothrix isolates from cattle are pathogenic for mouse and swine, and may also be pathogenic for other animals and humans.

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