Epidemiology of bovine tuberculosis in northeast Mexico at establishment of controlling strategies

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Bovine tuberculosis (bTB) is a cause of high economic losses and constitutes a barrier for the international trade of livestock. As a consequence, several countries have instigated programs focused on controlling and eradicating this disease; however, epidemiological information concerning the disease is scarce or absent for developing countries. Therefore, the objectives of this study were to determine some selected epidemiological patterns associated with bTB at the first stages of the Mexican campaign against bTB, implemented in the State of Tamaulipas, Mexico. A case-control study was carried out for determining epidemiological patterns at the beginning of the Mexican campaign against bovine tuberculosis (bTB) in the State of Tamaulipas, Mexico, bordering with the United States of America. From January 1995 to March 1998, 599 direct tissue smears of cattle from routine slaughterhouse inspection were analyzed for the presence of Mycobacterium bovis acid-fastness with Ziehl-Neelsen stain. bTB status was associated with year of diagnosis, age, breed, geographical origin of cattle and type of slaughterhouse using the odds ratio (OR) (95% confidence level). The prevalence at slaughterhouse surveillance was 15.36%, which was considerably higher in 1995 (41.38%; OR = 5.78; P < 0.0001), in comparison with 8.09%, 14.42% and 10.14% for the years 1996, 1997 and 1998, respectively. bTB was associated with cattle from the State of Tamaulipas (19.73%; OR = 4.438; P = 0.01), adult cattle (19.13%; OR = 2.19; P < 0.0001), Bos taurus (22.54%; OR = 2.135; P < 0.0001) and B. taurus x B. indicus breeds (29.31%; 2.769; P < 0.0001), and cattle sacrificed in federal inspected slaughterhouses (17.58%; OR = 1.23; P < 0.0001). Although the aforementioned risk factors are in agreement with other studies, additional slaughterhouse surveys must be conducted for monitoring the prevalence of bTB for eradicating the disease. Furthermore, the Northern states of Mexico and the Southern states of the United States of America should continue with collaborative activities in order to achieve the free-status of bTB and maintain the livestock trade between both countries.

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