Czech Academy of Agricultural Sciences

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Veterinarni Medicina

Tuberculous lesions in pigs in the Czech Republic in the years 1990 – 1999: occurrence, causal factors and economic losses

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[fulltext]

In the decade monitored a total of 45 873 318 pigs were slaughtered and examined according to veterinary hygiene standards. Apart from 1991, when results of tuberculous findings were not obtained, tuberculous lesions were found in 134 088 (0.32%) of the 41 458 565 pigs examined in the remaining nine years. During a detailed analysis of the pathological anatomical examination of 190 940 pigs slaughtered in one district, tuberculous lesions in lymph nodes were found in 4 107 (2.2%) pigs: mesenteric (65.3% pigs), submandibular (18.6% pigs), inguinal (0.1% pigs) and simultaneously intestinal and head lymph nodes (15.9% pigs). Miliary tuberculosis

was found only in the parenchymatous organs of four (0.1%) pigs. The following financial losses resulted: 6% for confiscating the head, intestines and stomach, and from 22 to 24% for assessing meat as conditionally edible after processing, i.e. intended only for heat-processed products. Mycobacteria were isolated from 7 246 (41.8%) pigs through the cultivation of tissue samples from 17 326 pigs. *Mycobacterium bovis* was detected in only five (0.07%) animals which originated from the last outbreak of bovine tuberculosis in cattle in the Czech Republic in 1995. *M. avium* complex (*MAC*) isolates came from 6 870 (94.8%) animals: 55.7% *M. a. avium* isolates were mainly of serotypes 2 and 3 and genotype IS*901*+ and IS*1245*+ and 39.2% *M. a. hominissuis* isolates were mainly of serotypes 4, 8 and 9 and genotype IS*901* – and IS*1245*+. Conditionally pathogenic mycobacteria (*M. chelonae*, *M. terrae*, *M. phlei* and *M. fortuitum*) were isolated from 371 (5.1%) pigs. In the whole period monitored, two marked increases in the findings of tuberculous lesions were recorded: In the mid-1990s as a result of using deep bedding with

1990s as a result of supplementing the pigs ' feed with peat. The predominant occurrence of *M. a. avium* isolates of genotype IS*901*+ and IS*1245*+ in the first half of the 1990s was replaced above all by *M. a. hominissuis* isolates of genotype IS*901*- and IS*1245*+. The reason for this was probably a change in the sources of infection for pigs. While at the beginning of the 1990s the most frequent source of infection were wild and domestic birds, various parts of the external environment became the source of the infection for pigs from the mid-1990s. In the years 1996 to 1999, *Rhodococcus equi* was isolated from 203 (11.6%) of the 1 745 animals examined. It was solely isolated from 154 (8.8%) animals and from 49 (2.8%) animals together with mycobacteria.

Keywords:

mycobacteriosis; PCR; risk assessment

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