**Mycobacterium avium complex**

Serotyping has been used to unravel some of the epidemiological features of Mycobacterium avium infections.

Each year the MAF Central Animal Health Laboratory at Wallaceville identifies isolates of the *Mycobacterium avium* complex from a range of different animals, including pigs, cattle, deer, and poultry. These isolates are often loosely referred to as causing "avian tuberculosis", with the inference that they are associated with poultry or wild birds.

However, the *M. avium* complex contains over 25 different serotypes, of which only three belonging to the species *M. avium* are fully pathogenic for poultry. The remaining serotypes constitute the species *Mycobacterium intracellulare*, whose members are either avirulent or have limited virulence for poultry. Standard culture procedures do not distinguish between these two closely related species, and culture results are reported as "*M. avium* complex".

In pigs *M. avium* complex infections commonly produce small lesions in the head and mesenteric lymph nodes, but these infections rarely develop into clinical disease. Serotyping of *M. avium* complex isolates from pigs indicates that many of the infections are caused by serotypes for which birds are not known to act as reservoirs. The isolation of members of the *M. avium* complex from soil and water is evidence that the environment is the reservoir for some of these infections in pigs.

The widespread distribution of members of the *M. avium* complex is further evidenced by the large number of humans who are sensitised to skin test reagents made from either *M. avium* or *M. intracellulare*.

Similarly, the widespread occurrence of sensitisation of deer to avian tuberculin in New Zealand suggests the broad distribution of members of this complex. Serotypes belonging to both *M. avium* and *M. intracellulare* have been found in deer. In most cases gross lesions are not found in deer which react preferentially to avian tuberculin. Where lesions caused by the *M. avium* complex have been found in deer, most occur in only one lymph node. On rare occasions these infections may progress and cause clinical disease. Such animals appear to have an impaired defence mechanism and are unable to cope with a normally innocuous infection.

A similar situation has been observed in humans with AIDS, where up to 35-45% have been reported to be infected with *M. avium* complex bacilli. In humans who are not immunologically compromised these infections are rare.

References


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