PROGRESS IN BOVINE TUBERCULOSIS CONTROL IN SARDINIA - ITALY

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In Italy Bovine Tuberculosis (TB) eradication program has been run since 1995, it is based on a single intradermal skin test, slaughter of positive animals and post-mortem inspection. Sardinia, Italy’s second largest island in the Mediterranean Sea, was officially declared Tuberculosis-free in 1998, according to a National law (DM 592/95). Although this programme fulfilled our law requirements, it failed to eradicate TB: in fact, a few outbreaks of the disease still occur. The spread of TB infection occurred in 2007 in extensive cattle herds located in a defined area of Sardinia, named Goceano. In this area, on the basis of the skin test and/or gamma interferon positivity, 700 animals, belonging to 75 affected herds, have been slaughtered during three years. Moreover, the presence of TB infection was monitored in wildlife. We randomly checked wild boar population by inspection of head lymph nodes and, in addition, we collected several samples during two hunting seasons (2007/2008 and 2008/2009). Our findings showed presence of Mycobacterium bovis in 36 infected herds and 9 wild boars. Molecular characterization of all M. bovis strains (from domestic and wild animals), by means of spoligotyping and VNTR (ETR) typing analyses, revealed that the spoligotype predominant was SB0120 and ETR type was 75532. Tactical measures were established by Regional Government according to the local Veterinary Services and the Istituto Zooprofilattico. The strategies adopted were: Quarantine of infected herds; prohibit the moving or transportation of animals in the outbreak and movement controls in the area; combine different ante-mortem diagnostic approaches by using both tuberculin skin test and interferon gamma assay; electronic identification of all bovine breds in this area. A ceramic rumen bolus was administered to more than 10,000 cattle; implement a surveillance system in the slaughterhouses and in the herds; all data regarding the herds (the location was mapped using a geographical information system), the animals, the pasture area were collected and placed in a database; creation of a regional information system based on GIS technology; evaluate the role of M. bovis in human TB and whether the cattle could represent a risk to public health. These initiatives was launched targeted with reducing the disease levels and devising the strategy supports necessary to achieve final eradication.

\textbf{Keywords}: Bovine Tuberculosis, Mycobacterium bovis, Sardinia, GIS