Tuberculosis detection at a local abattoir: a matter of Food Security, Public Health and sovereignty

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Tuberculosis (TB) remains worldwide as an old and serious public health problem. Existing meat inspection procedures started in late 19th century and have poor effectiveness because half of diseases and conditions remain undetected. However, these procedures are still valuable for meat inspectors. We detected 17 cases of TB from April 2011 through February 2012 at a Brazilian local abattoir in Goias. At that time, 67,179 bovines and 299 buffaloes were slaughtered. We collected tissues samples from suspected carcasses after post mortem inspection procedures and sent them to the laboratory. For histopathology, we sent 20-30mm thick tissue samples to Lapavet (Santo Andre, São Paulo) after at least 48 hours of sample in a 10% formaldehyde solution. At Lapavet, thin paraffin block sections were stained by hematoxylin & eosin and analysed under optical microscopy. Secondly, we swabbed caseous lesions onto General Electric - Whatman FTA cellulose cards (Piscataway, NJ, USA) and sent them to the molecular biology laboratory (LBM) of Federal University of Goias Veterinary and Zootecny School. At LBM, DNA was eluted before running a real time polymerase chain reaction targeting 16S rRNA of Mycobacteria. Results reached us in six to ten week days (histopathology) or ca. 72 hours (PCR). No buffalo had TB. Brazilian National Control and Eradication Program for Brucellosis and Tuberculosis is feasible as well as the aid of laboratory tools.