Identification of acid fast bacteria from caseous lesions in cattle in Sudan.

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One-hundred-and-twenty caseous lesions collected from slaughtered cattle at selected slaughterhouses in Sudan were processed for the detection of acid-fast bacteria (AFB). Sixty-four of the 120 samples showed AFB on microscopic examination after staining with the Ziehl-Neelsen method. Accordingly, it was estimated that 64 (53.3%) of the 120 caseous (purulent) lesions among the samples were due to AFB whereas 56 (46.7%) were due to other causes. Growth on Lowenstein-Jensen slants was obtained in 54 of the 120 samples. The isolated AFB were tentatively identified using microscopic and cultural characteristics. Confirmation of the phenotypic clusters was achieved by analysing the mycolic acids contents and PCR-amplification of the IS6110 insertion sequences. The above two methods have allowed the identification of Mycobacterium bovis and M. farcinogenes, the major AFB isolated from cattle in Sudan. The remaining AFB, which were negative for the above two tests, were further identified by sequencing the 16S rRNA gene. The above strategy thus allowed the identification of the isolated strains as follows: 25 (46%) M. bovis; 21 (39.9%) M. farcinogenes; 4 (7.4%) M. tuberculosis; 1 (1.9%) M. avium; 1 (1.9%) Nocardia sp., 2 (3.7%) unidentified AFB. The isolation of M. farcinogenes and M. tuberculosis, from pulmonary lymph nodes represented important findings.

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