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Genotyping of *Mycobacterium bovis* isolated at human-animals interface of the Serengeti ecosystem in northern Tanzania

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Interspecies transmission of tuberculosis at human-animal interface areas is of particular concern, particularly in areas where human, livestock and wildlife live in close proximity. This study aimed at investigating the species diversity of *Mycobacterium bovis* at human livestock-wildlife interface areas and possibility of *M. bovis* interspecies transmission. Sputum samples from 421 suspect TB patients attended health services in Bunda, Serengeti and Ngorongoro districts hospitals, Tanzania were collected between 2010-2013. Livestock and wild animals' tissues were collected from slaughter houses and wildlife protected areas respectively. Culture isolates were characterized using spoligotyping and MIRU-VNTR. Analysis and interpretation of genotypic results was performed using Mycobacterial spoligo data base, MIRU-VNTR plus. Based on spoligotyping, *M. bovis* strains belong to SB0133 and 2 novel strains were identified. No any *M. bovis* was isolated from tuberculosis patients. There was 100% genetic relatedness amongst strains of *M. bovis* isolated from wildlife species. The spoligotypeSB0133, which was dominant in wildlife species, was 96.8% and 45.2% genetic agreement to those found in livestock. There is close genetic agreement between *M. bovis* isolates circulating in wildlife and one of the isolates from livestock suggesting for possibility of *M. bovis* crossing over between hosts. It appears that, *M. bovis* is emerging from wildlife reservoirs and become established in livestock where it has genetically changed, suggesting for possibility of wild animals species as source of *M. bovis* infection in cattle.Therefore, diseases control programs should be directed on minimizing contact among *M. bovis* hosts at human-animal interface areas.

Biography

Bugwesa Zablon Katale has completed his PhD at Muhimbili University, Tanzania. He is a research scientist working with Tanzania Wildlife Research Institute, Ministry of Tourism and Natural Resources, Tanzania. His research interest is on tuberculosis cross transmission at human-animal interface areas.He has published more than ten papersin reputed international journals.

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