

## Letter to the Editor

## ***Mycobacterium bovis*-induced Human Tuberculosis in Central India**

Tuberculosis (TB) caused by *Mycobacterium bovis* (*M. bovis*) in animals (bovine TB) and humans (zoonotic TB) remains an important economic and zoonotic problem in most of the livestock-producing countries of the world. Humans mainly acquire *M. bovis* infection through close contact with infected animals or consumption of contaminated animal products. India has a high number (>512 million) of livestock animals and with >1.3 billion humans ranked as the second most populated country in the world. Approximately 68.0% of the Indian workforce relies on farming to secure their livelihood and is in close contact with domestic animals. Despite the reported high prevalence of bovine TB in domestic animals, information on the epidemiologic characteristics and public health aspects of *M. bovis* infection in humans remain largely unknown in India.

We read with interest the paper “Prevalence of zoonotic tuberculosis and associated risk factors in Central Indian populations” published by Bapat et al. [1], in the December 2017 issue of Journal of Epidemiology and Global Health. The study provides constructive information on the prevalence and associated risk factors of *M. bovis* infection in humans (zoonotic TB) of Central India [1]. However, the authors have missed reporting some potentially important limitations to the study.

First, the authors reported the highest number of *M. bovis* infected cases in residents of a high TB endemic area and highlighted “contact with index TB cases” as an important factor in the spread of zoonotic TB in Central India [1]. In general, human-to-human transmission of *M. bovis* is known to be a rare phenomenon and human-to-human transmission leading to *M. bovis* bacteraemia in patients is thought to be a very uncommon event. It unequivocally demands tracing of all household human contacts for the presence of *M. bovis*-induced TB and/or molecular typing of isolates involved in the transmission to establish. However, the authors have not performed household contact tracing of *M. bovis*-positive patients and strain typing of *M. bovis* isolates recovered from the study population to prove their claim on human-to-human transmission in this study.

Second, the authors have ignored Human Immunodeficiency Virus (HIV) status as a possible risk factor for zoonotic TB/*M. bovis* bacteraemia. HIV/AIDS plays a crucial role and is thought to be an important risk factor for the transmission and progression of all forms of TB. Some studies have reported significantly increased proportions of *M. bovis* infection among HIV-positive patients in comparison to HIV-negative patients [2]. The information on the potential association of HIV with the presence of *M. bovis* bacteraemia in the study participants can influence the epidemiological impact of the study.

Third, the findings of this study [1] are based on a blood based-nucleic acid amplification test [duplex Polymerase Chain Reaction (PCR)]. However, earlier studies have reported poor sensitivity (20–55%) of PCR for the diagnosis of TB with blood samples [3]. Thus, the study [1] probably underestimates the burden of *M. bovis* infection in humans of Central India. Therefore, comprehensive surveillance programs are urgently needed to establish the true burden, epidemiologic characteristics, and public health aspects of *M. bovis* infection in order to better manage zoonotic TB in India.

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## REFERENCES

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