

Mycobacterial infections in slaughter pigs in Uganda

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Prevalence and associated risk factors of mycobacterial infections in slaughter pigs from Mubende district in Uganda.

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Abstract

To date, the public health relevance of mycobacterial infections in pigs is not well investigated despite high risk of infection. Recently, there has been a documented increase in opportunistic infections and risk of acquiring opportunistic mycobacterial infections in HIV/AIDS patients in Mubende district; unfortunately, there has been no published information on the epidemiology of mycobacterial infections in this area. This study was carried out between September 2008 and February 2009. Investigations were done to assess the prevalence and associated risk factors of mycobacterial infections in slaughtered pigs in Mubende district of Uganda. A total of 997 pigs (53.7% male and 46.3% female) from 31 different slaughterhouses were examined for the presence of lesions compatible with TB and mycobacterial infections. Pathologic tissue specimens were collected for culturing and isolation of mycobacteria. A cross-sectional technique was used based on convenient visits to slaughterhouses but random selection of individual slaughtered pigs for a detailed post-mortem inspection on a daily basis. The results reflected a 9.3% and 3.1% (95% CI) prevalence of

Mycobacterium

species based on necropsy examinations and culture isolation, respectively. The highest prevalence of mycobacterial infection was recorded in Buwekula County (the mixed agro-zone) whilst the lowest was in Kassanda County (pastoral zone). A multivariable logistical regression analysis identified age (

P

<0.001) and sex (

P

<0.05) as risk factors for mycobacterial infections in pigs. Post-estimation statistics of the regression model evaluation and validation fit it well into the data (HL,

χ^2

and

χ^2

$=5.9$;

P

$=0.69$ for necropsy, HL

χ^2

and

χ^2

$=2.9$;

P

?=0.94 for culturing). This study documented a high prevalence of mycobacterial infections in slaughter pigs in Mubende district. The fact that pigs and human often share common housing and environment poses a high risk of zoonotic transmission. This then warrants further molecular investigation to identify the specific

Mycobacterium

species and their public health importance in this area.

Keywords: Mycobacteria; Pigs; Risk factor; Uganda

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