

PREVALENCE ON CASEOUS LYMPHADENITIS IN SHEEP AND GOATS DETECTED FROM CASES SUBMITTED TO VRI, IPOH FROM 2008 TO 2010

NORLINDAWATI, A. P., NORAZURA, A. H., BOHARI, J., CHIN, S.W., ZAINAB, Z., MAZLAN, L., AMINA KHADARIAH., SURAYANI, A.R., AZMALIZA, A., NOR ASHIKIN., VIJAAN, G., RAMLAN, M., & YEOH, NO NA

Veterinary Research Institute, 59 Jalan Sultan Azlan Shah, 31400 Ipoh, Perak

Corresponding author: norlindawati@dvs.gov.my

Abstract

Caseous lymphadenitis (CLA) caused by *Corynebacterium pseudotuberculosis* in Malaysian sheep and goats were diagnosed routinely by Veterinary Research Institute. From five categories of samples received, herd health programme was analyzed because compared to other categories, in this programme the samples are consistently sent by every state from year 2008 until 2010. Data were analyzed by divided the Peninsular Malaysia into four region. Analysis shows that the reactor rate for Peninsular Malaysia and southern region are increasing from year 2008 to 2010. Northern Region, East Coast Region and Central Region show the fluctuation of the reactor rate maybe due to the varied sample volume received by VRI. Based on the results, CLA diseases became an important disease in sheep and goats in Peninsular Malaysia. Eradication and controlling this disease has to be done to improve the quality of our food and at the same time it also can improve the profit of Malaysian farmers.

Key words: Caseous lymphadenitis, *Corynebacterium pseudotuberculosis*, Peninsular Malaysia, VRI

INTRODUCTION

Corynebacterium pseudotuberculosis is the bacterium responsible of caseous lymphadenitis disease (CLA) in goat and sheep (Batey 1986). This gram-positive bacterium is found on fomites, soil and manure that are contaminated with purulent exudates from infected animals. Infection occurs after this bacterium penetrates through unbroken or abraded skin or through mucous membrane, following which the bacteria are carried to the local lymph node. Once established, they multiply to cause inflammation, necrosis and abscessation of the superficial lymph nodes. The infection can cause important economic losses for ovine and caprine husbandries, due to reduced wool, meat and milk yields, culling of affected animals and condemnation of carcasses and skins (McNamara *et al.*, 1995; Hodgson *et al.*, 1990). The aim of this prevalence is to determine the pattern of CLA disease in goat and sheep in Peninsular Malaysia based on cases received at VRI, Ipoh from 2008-2010 by herd health programme. There are five categories of samples received in VRI which are by monitoring programme, quality control, research, reference and herd health programme. In this study, we will focus on herd health programme because compared to other categories, in this programme the samples are consistently sending by every state from year 2008 until 2010. Data were analyzed by divided the Peninsular Malaysia into four region. Peninsular Malaysia consists of the following eleven states and two federal territories (starting from the North going to the South): *Northern Region*: Perlis, Kedah, Penang, Perak; *East Coast Region*: Kelantan, Terengganu, Pahang; *Central Region*: Selangor, federal territories of Kuala Lumpur, Putrajaya and finally *Southern Region*: Negeri Sembilan, Malacca, Johor.

MATERIALS AND METHODS

Goat and sheep serum samples from every state in Peninsular Malaysia were screened for the presence of antibodies against *C. pseudotuberculosis* using Agar gel immunodiffusion test (AGID).

RESULTS

	Year 2008	Year 2009	Year 2010
Peninsular Malaysia	9,749	19,397	42,599
Northern region	1,706	2,729	9,495
East coast region	2,635	5,855	10,425
Central region	558	581	8,861
Southern region	4,850	10,232	13,818

Table 1: Total samples from Peninsular Malaysia in 2008 to 2010

VRI was received the total of 9,749 goat and sheep samples in year 2008, 19,397 in year 2009 and 42,599 in year 2010 from all states in Peninsular Malaysia. Reactor rate in 2008 is 57.3%, 2009 is 60.9% and 2010 is 71.9%. Reactor rate for southern region in 2008 is 45.3%, 2009 is 63.8% and 2010 is 71.3%. Reactor rate for northern region in 2008 is 56.7%, 2009 is 42.1% and 2010 is 76.6%. Reactor rate for east coast region in 2008 is 71.9%, 2009 is 62.5% and 2010 is 59.6%. Finally, reactor rate from central region in 2008 is 94.1%, 2009 is 84.2% and 2010 is 81.2%.

DISCUSSION AND CONCLUSION

Although AGID test takes three days for testing compared with ELISA which only need approximately a few hours, currently VRI still uses this test as routine diagnostic tools to detect CLA because according to Clarke *et al.* (1996), Hope *et al.* (2000), Sergent *et al.* (2003) and Robbe-Austerman *et al.* (2006) the specificity of AGID method can be as high as 100%. Analysis shows that the reactor rate for Peninsular Malaysia and southern region are increasing from year 2008 to 2010. Three other regions show the fluctuation of the reactor rate maybe due to the varied sample volume received by VRI.

Nowadays, increasing of consumer awareness on food safety and nutrition issues of the utmost is importance toward healthy lifestyles and disease prevention. According to the analysis done, CLA diseases became an important disease in sheep and goats in Peninsular Malaysia. Eradication and controlling this disease has to be done to improve the quality of our food and at the same time it also can improve the profit of Malaysian farmers.

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