PREVALENCE OF SARCOCYSTIS SPP IN CARDIAC MUSCLE OF SWINE IN SAMUT PRAKAN PROVINCE, THAILAND

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Abstract. The prevalence of Sarcocystis spp in cardiac muscle of swine collected from three markets in Bang Phli District, Samut Prakan Province was determined. Of the 300 specimens investigated for Sarcocystis, 100% (300/300) were positive with bradyzoites. The crescentic bradyzoites were found in Giemsa stain (Fig 1).

DISCUSSION

The outcome of this study revealed a very high prevalence of Sarcocystis infection (100%) in swine cardiac muscle in Bang Phli District, Samut Prakan Province. This result was equivalent to 100% infection in cattle and buffalo from Ratchaburi and Bangkok.

INTRODUCTION

Sarcocystis is an obligate, heteroxenous coccidian. The sexual stages are found in animals of prey, whereas sexual stages are present in predator animals. Humans serve as the definitive host of Sarcocystis bovihominis and S. suihominis, for which cattle and swine are the intermediate host, respectively. The former species are acquired by eating undercooked beef or pork containing infective stage organisms. In Thailand, six cases of enteritis associated with Sarcocystis sporocysts were reported in Bangkok (Bunyaratavej et al, 1982). Moreover, Sarcocystis was identified in autopsy specimens in skeletal and cardiac muscle from 15 people whose cause of death was unknown (Limsuwan and Bunyaratavej, 1978). Because both cattle and swine are human foods, this study aimed to survey the prevalence of Sarcocystis infection in swine in Bang Phli District, Samut Prakan Province, Thailand.

MATERIALS AND METHODS

A total of 300 specimens from the cardiac muscles of swine were randomly collected from three markets in Bang Phli District, Samut Prakan Province during the months March to April, 2003. Approximately 50 g of cardiac muscle was thinly sliced, minced, wrapped with double layers of wet gauze, and then squeezed. A few drops of juice obtained from host tissue were examined by wet smear under a light microscope for the presence of bradyzoites. A smear from each sample was allowed to dry, fixed in absolute methanol, and stained with Giemsa again for confirmation.

RESULTS

Of 300 specimens examined, 300 (100%) were found positive for bradyzoites. The crescentic bradyzoites were found in Giemsa stain (Fig 1).

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Fig 1- Bradyzoites obtained from cardiac muscle of swine (stained with Giemsa, x400).
(Muangyai and Chalermchaikit, 1988). Danseekaew et al (1990) also reported the prevalence of Sarcocystis in cattle in Khon Kaen at was 93.4% (288/303) and Pan-in et al (1991) reported 100% positive infection of Sarcocystis in Chiang Mai, Thailand, while 42.6% (46/108) of swine were found to be infected with bradyzoites in Bangkok (Keittivutti et al, 1985). From the previous reports and the result of this study, it was interesting to note that uncooked pork could be a high risk for the transmission of Sarcocystis to humans in Thailand. The heart was the most commonly infected part in cattle and hainags (Fukuyo et al, 2002).

The high prevalence of Sarcocystis spp infection found in this study may be risk for northeast labourers, who live in Samut Prakan Province, because of their raw or half-cooked eating behavior. The outcome of this study revealed that controlling of Sarcocystis infection in pork in Bang Phli District, Samut Prakan Province should be implemented. The present study can also be basic knowlege for future study.

REFERENCES


