

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.

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).

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



Fig 1- Bradyzoites obtained from cardiac muscle of swine (stained with Giemsa, x400).

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(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 knowlegde for future study.

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