

INCIDENCE AND FERTILITY STATUS OF HYDATID CYSTS IN BUFFALOES

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ABSTRACT

Study on the incidence of hydatidosis in food animals meant for human consumption such as buffaloes was done at the time of slaughter by inspecting the carcasses and viscera for the presence of hydatid cysts with particular reference to lungs, liver, spleen etc., Based on the observation, the incidence of hydatid cysts in buffaloes examined was found to be 11.11 percent. With regard to the organ wise involvement, the presence of hydatid cysts was more in lungs, followed by liver and the fertility rate of hydatid cysts was high in lungs.

Keywords: hydatidosis, incidence, fertility, buffaloes

INTRODUCTION

Hydatidosis, a zoonotic parasitic disease of animals and man is caused by the larval stage (metacestode) of the dog tapeworm *Echinococcus granulosus*, the life cycle involving two mammalian hosts. Definitive hosts are carnivores such as dogs and the intermediate hosts are herbivores and omnivores wherein the development of the cysts occurs in liver, lungs and other organs. Incidence of hydatidosis has been reported earlier by Sundaram and Natarajan (1960) by examination

of animals slaughtered in Chennai. Hydatidosis in animals results in significant economic loss to the meat industry through condemnation of infected organs such as liver, lungs and other organs apart from reduced quality of milk, meat and wool. Hence, a study was done to know the incidence of the hydatid disease in slaughtered buffaloes in Chennai as well as the organ wise involvement and the fertility status of the hydatid cysts.

MATERIALS AND METHODS

Buffaloes were observed for the presence of hydatid cysts in lungs, liver and other organs at the time of slaughter in the Corporation slaughter house, Chennai by inspecting the carcasses and viscera of the slaughtered animals. The visceral organs harbouring the hydatid cysts were collected and brought to the laboratory so as to ascertain the fertility or sterile nature of the hydatid cysts based on the presence or absence of protoscolices in the hydatid cyst fluid.

RESULTS AND DISCUSSION

A total of 810 buffalo were screened and observed for the presence of hydatid cysts at slaughter. Out of the 810 buffaloes, 90 buffaloes

showed the presence of hydatid cysts giving an overall incidence of 11.11% in buffaloes. Out of 90 hydatid cysts observed in various organs, 57 hydatid cysts were recovered from lungs, 17 from liver, 15 from lungs and liver and one hydatid cyst from muscle. Forty two cysts were found fertile out of the 90 hydatid cysts observed. With regard to fertility status of the cysts, 27 hydatid cysts from lungs (64.30%), 7 hydatid cysts from liver (16.6%), 7 hydatid cysts from lungs and liver (16.66%) and one hydatid cyst from muscle (2.38%) were found to be fertile.

The prevalence of hydatidosis in cattle has been reported to vary from 7.6% (Deka *et al.*, 1983) to as high as 56.6% (Himonas *et al.*, 1994 and Daryani *et al.*, 2009). The findings on the incidence of hydatid cysts as 11.11% in buffaloes in the present study correlates with the earlier reports.

Variations in the prevalence could be due to the changes in the temperature, environmental conditions, and the management practices adopted in rearing the animals. The present study showed lower prevalence in comparison with the earlier reports. Contrary to past decades, various precautions and changing in behavior pattern such as awareness about the disease, routine deworming of dogs against tapeworms as well as decrease in the number of stray dogs could be the major reasons for the decrease in the incidence of hydatid cysts (Beyhan and Umur, 2011).

With regard to fertility status of hydatid cysts recorded from different viscera, it was observed that 64.30% of hydatid cysts from lungs were found to be fertile, followed by 16.66% from liver. Kosalaraman and Ranganathan (1980) in Madras had reported 35 percent of fertile cysts from lungs, 28% from liver. Koshy (1984) reported 20% of fertile cysts in liver, 28% in lungs and 36% in spleen. In case of food animals like sheep, goats

and buffaloes, maximum number of fertile cysts were recorded in liver (59%) followed by lungs and spleen (Sangaran and Lalitha, 2013). Variation in the cyst fertility might be due to the difference in tissue resistance among the visceral organs. The reason for higher prevalence of fertile cyst in lungs in the present study might be due to softer consistency of lungs and also large capillary fields encountered by the oncospheres (Urquhart *et al.*, 1996). The result of the present study correlates well with the earlier observations of Kosalaraman and Ranganathan (1980) and Koshy (1984) on fertility nature of hydatid cysts.

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