

Research Article

PREVALENCE AND FERTILITY STATUS OF HYDATID CYSTS IN CATTLE

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ABSTRACT

Study on the incidence of hydatidosis in food animals meant for human consumption- cattle 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. The prevalence of hydatid cysts in cattle was found to be 11.57 per cent. With regard to the organ wise involvement, the infection with hydatid cysts was more in lungs, followed by liver.

Key Words: Hydatidosis, Prevalence, Cattle

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 Madras. 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 prevalence of the hydatid disease in slaughtered cattle in Chennai as well as the organ wise involvement and the fertility status of the hydatid cysts.

MATERIALS AND METHODS

Cattle 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 carcass 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 fertile or sterile nature of the hydatid cysts based on the presence or absence of protoscolices in the examined hydatid cysts.

RESULTS AND DISCUSSION

A total of 664 cattle were observed at slaughter for the presence of hydatid cysts. Seventy seven cattle were found positive for the presence of hydatid cysts examined at slaughter giving an overall prevalence of 11.57 per cent in cattle.

In the 77 animals with hydatid cysts, 43 (55.84 per cent) harboured hydatid cysts in lungs, 30 (38.96 per cent) in liver and 4 (5.19 per cent) involved both lungs and liver.

In cattle, out of 43 animals with hydatid cysts in lungs, 19 (44.19 per cent) and 24 (55.81 per cent) were found to be fertile and sterile. In animals showing the hydatid cysts in liver, 9 (30.00 per cent) and 21 (70.00 per cent) were found to be fertile and sterile respectively. Out of 4 hydatid cysts in lungs and liver, two (50.00 per cent) were found to be fertile.

The prevalence of hydatidosis in cattle has been reported to vary from 7.6 per cent (Deka *et al.*, 1983) to as high as 56.6 per cent (Himonas *et al.*, 1994 and Daryani *et al.*, 2009) and the findings, prevalence of 11.57 per cent in cattle in the present study correlates with the earlier reports.

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In the present study, lungs were found to be more frequently affected with hydatid cysts in cattle (55.84 per cent) which correlate as per the findings of Janardhan Pillai *et al.*, (1986) who had reported that lungs were the most affected organ when compared to liver. Koshy (1984) also observed that lungs were more affected with hydatid cysts than the liver in the food animals commonly slaughtered at Madras. Sundaram and Natarajan (1960) reported that lungs were more frequently affected (58 per cent) than liver, and spleen was infected less frequently (2.7 per cent). Presence of one or more hydatid cysts in cattle was observed during slaughter with more involvement in lungs, followed by liver or both (Manterola *et al.*, 2006 and Al-Khameshi and Al-Hadithi, 2011). The findings in the present study correspond to the earlier observations with regard to organ wise involvement of hydatidosis.

With regard to the fertility status of hydatid cysts in various organs in the present study, out of the 77 animals with hydatid cysts, 30 were found to be fertile (39.00 per cent). Pandey *et al.*, (1986) had reported that the fertility rate of hydatid cysts in food animals such as sheep, goats, cattle was 50 per cent, where as Koshy (1984) had reported 20 per cent of fertile cysts in liver, 28 per cent in lungs and 36 per cent in spleen. The findings in the present study are in accordance with the occurrence of fertile hydatid cysts in various organs as reported by earlier workers.

Conclusion

The prevalence of hydatidosis in food animals such as cattle was studied. Screening of 664 cattle at the time of slaughter in the Corporation slaughter house, Chennai revealed the presence of hydatid cysts in lungs, liver and involvement of both lungs and liver. Presence of hydatid cysts was observed in 77 of the 664 cattle examined giving an incidence of 11.57 per cent. Lungs were found to be more affected as compared to liver, spleen and involvement of both lungs and liver. With regard to the fertility status of the hydatid cysts in cattle observed, 39 per cent were fertile with lungs showing more fertile cysts.

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