INCIDENCE OF HYDATIDOSIS IN SLAUGHTERED SHEEP AND GOATS

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ABSTRACT

Hydatidosis, caused by the larval stage of the dog tapeworm, Echinococcus granulosus is considered to be an important condition in herbivores such as cattle, buffaloes, sheep and goats. Due to its presence in the food animals meant for meat purpose, the disease is considered to be of economic and public health significance owing to the impact it produces on the meat industry by condemnation of the affected organs. Food animals such as sheep, goats get infected by accidental ingestion of contaminated feed and water with the eggs of the tapeworm. Development of the cysts in the intermediate host such as sheep and goats occurs in the lungs, liver and other visceral organs. The disease remains asymptomatic in most cases in spite of the presence of the hydatid cysts for a long period. A study was undertaken to find out the incidence of the hydatid cysts in sheep and goats in the Corporation slaughter house by examination of the carcasses of the slaughtered sheep and goats. By the study, an overall incidence of 6.5% in sheep and 5.8% in goats were observed with the sheep harbouring more number of fertile hydatid cysts which plays a major role in dissemination of infection to dogs.

Keywords: Hydatidosis, Sheep, Goats

INTRODUCTION

Hydatidosis is one of the major zoonotic diseases that cause considerable economic loss and public health problem worldwide. The occurrence of the disease is cosmopolitan and is placed second in helminthic disease of significance. The adult stage of Echinococcus granulosus is in carnivores, particularly dogs and other canids, which act as definitive hosts. Dogs play a vital role in the spread of infection via contaminated environment. Domestic herbivores and human beings may serve as intermediate hosts. The prevalence of infection with hydatid cysts in sheep, goats, cattle and buffaloes is reported to be high throughout the world. The major economic impact caused by hydatidosis in food producing animals are losses in productivity such as reduction in carcass weight, milk
production, fleece and wool value, fertility, hide value, delayed performance and growth apart from condemnation of organs especially liver and lungs, cost involved for disposal of infected viscera and dead animals (Sariozkan and Yalcin, 2009; Romig et al., 2011). The prevalence of cystic echinococcosis is higher in rural communities of developing countries due to close proximity between dogs, intermediate hosts species and man as well as due to wide spread slaughtering of animals, absence of meat inspection procedures, improper disposal of dead animals, failure to treat dogs with cestodicidal drugs and grazing of domestic herbivores in communal fields where stray dogs have free access (Ibrahim 2010; Romig et al., 2011). Considering the economic importance of the disease, a study was carried out to find out the incidence of hydatidosis in sheep and goats slaughtered in the corporation slaughter house, Chennai.

**MATERIALS AND METHODS**

The incidence of hydatidosis in food animals, meant for human consumption such as sheep and goats slaughtered at Corporation Slaughter house, Chennai was observed at the time of slaughter by inspecting the carcasses and viscera of the sheep and goats for the presence of hydatid cysts particularly in organs like liver, lungs and other organs. The hydatid cysts in various organs were collected from the slaughtered animals and brought to the laboratory. The hydatid cysts were examined microscopically to ascertain whether fertile or sterile cysts based on the presence or absence of protoscolices. The organ wise affection by hydatid cysts was also recorded so as to know the incidence in different organs and viscera of the slaughtered sheep and goats.

**RESULTS AND DISCUSSION**

A total of 1281 sheep were observed during slaughter, out of which 83 had hydatid cysts in various organs, giving an incidence of 6.5%. With regard to organ wise involvement, lungs accounted for 49 (59.03%), liver 27 (32.53%), spleen 1 (1.21%) and the involvement of both lungs and liver was observed in 6 (7.23%) of the 83 sheep with hydatid cysts. The incidence of hydatidosis in sheep was reported to vary from 5.6% to 29% (Sangaran and Lalitha John, 2009; Getaw et al., 2010; Abiyot et al., 2011). The incidence of hydatid cysts in sheep and goats was reported as 29.7% and 24.8% in Jammu, India (Kumsa and Mohammedzin, 2012).

Sixty nine goats were found positive for the presence of hydatid cysts out of 1191 goats examined at slaughter forming an overall incidence of 5.8%. The prevalence of hydatid cysts in goats have been found to be ranging from 6.7% to 24.8% (Sangaran and Lalitha John, 2009; Kebebe et al., 2010; Kumsa and Mohammedzin, 2012). In goats with hydatid cysts observed in various organs, lungs accounted for 37 (53.62%), liver 23 (33.33%), spleen 2 (2.9%) and the presence of the cyst involving lungs and liver was observed in 7 (10.15%) animals.

Organ wise involvement in the present study revealed that lungs were found to be more frequent targets in sheep (59.03%) and goats (53.62%), which is in accordance with the earlier findings (Raman and Chellappa, 1998; Raman and Lalitha John, 2003; Kebede et al., 2011; Kumsa and Mohammedzin, 2012), who had also reported that lungs were more commonly affected with hydatid cysts than liver. Sundaram and Natarajan (1960) had
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reported that lungs were more frequently involved (58%) as compared to liver, and spleen was affected less frequently (2.7 per cent). The findings in the study undertaken correlates well with the reports of organ wise involvement of hydatid cysts made by earlier workers.

REFERENCES


