Prevalence of Cystic Echinococcosis in Sheep and Goats in Mathura City

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ABSTRACT

A study was undertaken to assess the prevalence of hydatid cysts in sheep and goats, slaughtered at different retail shops and army slaughter house in Mathura city. The overall prevalence in sheep and goats were recorded as 4.52% and 2.78%, respectively, whereas prevalence rate of hydatidosis in rams and ewes was found to be 4.34% and 6.25%, respectively. In bucks and does, it was 1.26% and 6.81%, respectively. The adult sheep above 1 year had the prevalence rate of hydatid disease as 5.13% and in lambs, it was 2.63%, while the adult goats had 3.25% and kids had 1.72%. In sheep, 57.15% of lungs and 42.85% of liver were found to be affected with hydatid cyst. The infection rate in goats was found to be 80% and 20% in lungs and liver, respectively. Thus the present investigation indicated that the most common site of infection was lung.

Keywords: Goat, hydatid disease, sheep.

Cystic echinococcosis (CE) is an important cyclozoanoses and occurs almost in all inhabited subcontinents (Eckert and Thompson, 1997). Sheep and goats play an important role in the national economy. They are one of the major sources of the foreign exchange earning through export of meat, wool, and hide, ornamental and leather goods. Great economic loss occurs as a result of condemnation of considerable quantity of offal meat (Vegad and Katiyar, 2001) due to hydatid disease. High prevalence of hydatid disease has been recorded in man and animal in India (Singh and Dhar, 1988). This disease besides causing morbidity and mortality in human and animals also has direct economic importance, which depends on the involvement of vital organ of food animal and condemnation of carcass and subsequent restriction on the export of meat and meat products. It can assume an important public health problem, if hygiene practices are not adequate. Keeping in view its public health significance and endemicity in country, the present investigation was undertaken to study the prevalence of hydatid disease in sheep and goats slaughtered at Mathura city.

A total of 155 sheep and 180 goats were examined during slaughter at local retail shops and army slaughter house in Mathura. Prevalence of hydatid disease was recorded by procedure as described by Pandey (1970). The procedure included the examination of dressed carcasses by visual inspection, palpation and by incision of organs whenever necessary. Hydatid cysts were collected from the affected lungs and liver and these organs were transferred immediately to laboratory under cold conditions and were further stored at 4°C till further examination. Some cysts were examined for fertility in laboratory as quickly
Table 1: Prevalence of hydatid disease in sheep and goats according to age, sex and organ specificity

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Prevalence</th>
<th>Percentage positive on meat inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sheep</td>
</tr>
<tr>
<td>1</td>
<td>Overall prevalence</td>
<td>4.52 (7/155)</td>
</tr>
<tr>
<td>2</td>
<td>Age-wise prevalence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;1 year</td>
<td>5.13 (6/117)</td>
</tr>
<tr>
<td></td>
<td>Lambs/Kids</td>
<td>2.63 (1/38)</td>
</tr>
<tr>
<td>3</td>
<td>Sex-wise prevalence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>4.34 (3/69)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>6.25 (3/48)</td>
</tr>
<tr>
<td>4</td>
<td>Organ-wise distribution of hydatid cyst</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lung</td>
<td>57.14 (4/7)</td>
</tr>
<tr>
<td></td>
<td>Liver</td>
<td>42.85 (3/7)</td>
</tr>
</tbody>
</table>

Figures within parenthesis indicates number of positive out of total animals examined.
increase in the age of animals may be attributed to greater opportunity of infestation and development of hydatid cyst in animals with the advancement of age.

In present investigation pulmonary cysts were more common in sheep and goats (57.14% and 80%, respectively). Earlier Biswas et al. (1989), Verma (1990) also observed that the pulmonary cysts were more common, while Das (1998), Utpal et al. (1998), Al-sultan and Jarjeees (1999), Musinov (1999) and Bhattacharya et al. (2000) observed that the most common site of hydatid cysts were lungs and liver.

Hydatid disease in sheep and goats is a global problem of zoonotic importance. Therefore breaking the cycle between domestic animals and dog/wild animals is essential for prevention of the disease.

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Reference