SHORT COMMUNICATION

BOVINE HEPATIC FASCIOLOYSIS OF OUTRIGHT CONDEMNATION IN THE MAIDUGURI MUNICIPAL ABATTOIR AND ITS ECONOMIC IMPORTANCE

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ABSTRACT

The fasciolosis which warrant outright condemnation of cattle livers has been shown to be 0.54 percent of livers of the cattle slaughtered at the Maiduguri Municipal abattoir. The livers condemned outright have been kept to a minimum. Of the actual losses which the disease cause, only 46 percent was manifest to the butchers in condemnation of livers, the other losses (54 percent) in costs due to weight loss are not appreciated because the losses are not visible. The annual estimated loss due to fasciolosis in Nigeria is between 16.4 to 20.9 million U.S. dollars, but the cost of chemoprophylaxis would be much less. The Central Government is in a position to plan and execute control measure in future using veterinarians in private practice.

Key Words: Cattle Livers, Fasciolosis, condemnation.

INTRODUCTION

Tropical hepatic fasciolosis is a disease of economic importance (Dunn 1969) caused by Fasciola gigantica which in Nigeria has attracted the attention of several investigators. Henderson (1937) reported bovine fasciolosis in Nigeria and stated that the acute liver fluke infections are rarely seen in cattle though they occur in small ruminants. Schillorn Van Veen (1979) mentioned that infection are acquired in temporarily flooded plains of the Niger and Benue Rivers and the streams else where in Nigeria. Several other workers at different times in various places have given figures on the incidence, prevalence and the economic importance of bovine fasciolosis in Nigeria. Among them, Ferguson (1964) gave incidence of 5.9 per cent for slaughter cattle in Maiduguri. Sewell (1966) working in Vom Plateau State estimated the annual loss to amount to one and a third million pounds sterling; Ikeme and Obioha (1973) reported an incidence of 39 per cent in trade cattle in Eastern Nigeria, Babalola and Shillhorn Van Veen (1976) gave an overall incidence of 31.7 per cent in cattle from North Eastern Nigeria; Alounge and Fasanmi (1979) found that liver of total condemnation rate in Maiduguri was 14.05 per cent; Ogunrinade and Ogunrinade (1980) using an elaborate computation technique reported an estimated annual loss of 5 million naira; Ogunrinade, Okon and Fasanmi (1981) reviewed its prevalence in different parts of the world and gave an overall prevalence of two and half percent in Nigeria and Fabiyi and Adeleye (1982) estimated the loss on Jos Plateau to amount to N6,180,200.00 annually. In Maiduguri the prevalence has recently been found to be 21.1 per cent (Nwosu and Srivastava, 1993).

The purpose of this communication is to determine the percentage of livers outrightly condemned unfit for human consumption at the Maiduguri Municipal Abattoir and to highlight the economic importance of bovine fasciolosis locally and nationally from general assessment of the level of the infestation in Nigerian cattle.

MATERIALS AND METHODS

Bovine Livers, 148,735 were examined routinely at post-mortem inspection by trained Meat inspectors using the methods recommended in the Hand Book of Meat Inspection (BVA, 1965) for the detection of fasciolosis. The surfaces and substances of livers were examined and, if necessary, the livers were incised to ascertain whether the...

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Cattle Slaughtered</th>
<th>Number Of Livers Condemned</th>
<th>Percentage</th>
<th>Cost of Liver condemned at N200/kg</th>
<th>Estimated Cost Of Weight Loss Owing Fasciolosis At N200/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>36,454</td>
<td>21</td>
<td>0.06</td>
<td>N22,890.00 ($125)</td>
<td>($311.85)</td>
</tr>
<tr>
<td>1991</td>
<td>40,485</td>
<td>111</td>
<td>0.27</td>
<td>120,990.00 ($1,112.3)</td>
<td>($1,648.35)</td>
</tr>
<tr>
<td>1992</td>
<td>38,763</td>
<td>51</td>
<td>0.13</td>
<td>N55,590.00 ($694.57)</td>
<td>($757.35)</td>
</tr>
<tr>
<td>1993</td>
<td>33,033</td>
<td>28</td>
<td>0.08</td>
<td>N30,520.00 ($381.8)</td>
<td>($415.8)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>148,735</td>
<td>211</td>
<td>0.54</td>
<td>N229,990.00 ($2,877.75)</td>
<td>$3,133.35</td>
</tr>
</tbody>
</table>

(I US $ is equivalent to N80.00. Dollar Equivalents in parenthesis)

pathological condition of fasciolosis was present. Wherever there were very many flukes and the liver was markedly 'pipey', such a liver was condemned outright as unfit for human consumption owing to its gross cirrhosis.

This account of such fasciolosis encountered in Maiduguri Abattoir over a four year period 1990-1993 is given. The cost price of condemned livers as well as the cost of inapparent flesh lost as a result of an average of 30 flukes infestation for every cattle were estimated for ready appreciation of the economic significance of fasciolosis to the beef trade in Maiduguri Municipality.

RESULTS AND DISCUSSIONS

The results are summarised in Table 1. The incidence of condemnation varied from year to year and the financial loss arising from it had to vary paripassu. The apparent loss of income which the butchers suffered was 48 per cent of the total loss which was properly computed to include the cost of inapparent weight loss due to fasciolosis (Sewell, 1966).

The butchers' losses are usually inevitable because they cannot control these losses. The butchers still manage to have a good margin of profit irrespective of the condemnation. Undoubtedly, the number of livers rejected at the Maiduguri Municipal Abattoir is kept to a minimum and much less than before (Alonge and Fasanmi, 1979).

Nevertheless, it would still be preferable if any wastage can be avoided. Livers condemned may still be used for pet food or some pharmaceutical purpose in the manufacture of heparin and Vitamin B12. But such use does not exist presently in Maiduguri where condemned livers, are buried to forestall their unauthorized sales for human consumption. The market price of liver is expected to increase in future in response to continuous rise in demand on account of its importance as a dietary delicacy besides its therapeutic value in the treatment of human anaemia.

To reduce the annual losses due to fasciolosis therefore, cattle producers require Veterinary advice on the profitability which prophylactic treatment against bovine fasciolosis can engender. The losses in weight gain using parameters of previous workers (Sewell 1966; Ogunrinade and Ogunriande (1980) and Fabiyi and Adeleye (1982) have been nationally estimated to be between N960 to over N2,000 million (12 to 25 million U.S. dollars). The cost of control would be less than this amount. Toney (1989) has mentioned that in Africa all previous attempts to control the Vector snails - Limnaea natalensis with molluscicides have ended in
failure. But his recommendation of two prophylactic treatments for each head of cattle using two anthelmintic drugs at different times is adequate. The first treatment with rafoxanide is to be administered between April and May against immature Fasciola giantica and the second treatment with bromophosphonates is to be given to cattle between October and November. The latter drug is very active against adult Fasciola giantica.

The adoption of this regimen of mass chemoprophylaxis against fascioliasis in future is bound to result in marked reduction of hepatic fascioliasis that would warrant outright condemnation of cattle livers. The control measures require national planning and execution to succeed. The reason for this approach is based upon the fact that fascioliasis is not an overt disease like contagious bovine pleuropneumonia or the cattle plague-Rinderpest, the two cattle diseases of high mortality for which Nigerian cattle producers clamour for specific vaccinations, because their outbreaks cause severe loss which affects adversely their socio-economic status. Though fascioliasis has been shown to be of serious economic importance, yet cattle producers would not undertake voluntarily the cost of its control, because fascioliasis is not associated with high mortality.

Therefore, the Central government of Nigeria is better placed to control the disease and its annual losses by purchasing the drugs needed and employing Veterinarians in private practice to administer strategically the anthelmintics to affected cattle nationwide.

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REFERENCES


