Pathological lesions associated with internal parasitosis in donkeys in Kiambu district in Kenya

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Abstract

Six donkeys, both males and females, were purchased from Limuru area (Kiambu District) and sacrificed so as to investigate the parasites and lesions present. The donkeys were in poor body condition. At post-mortem, Dictyocaulus arnfieldi, was isolated from the lungs. In the stomach there were inflammatory lesions associated with Gasterophilus larvae, Habronema and Trichostrongylus. In the intestines, several species of helminth parasites were isolated. Some of these were associated with enteritis. Other lesions were traumatic hepatitis and cranial mesenteric arteritis associated with Strongylus larvae.

Introduction

The donkey is found mainly among the nomadic people and less frequently among the settled populations of West Africa (Epstein, 1984, Fielding, 1987). This is partly because their are well adapted to these regions. They feed mainly on coarse pastures, thistles, thorn bushes and paper and have a lower water requirement than cattle. Generally they require water every 2 - 3 days (Epstein, 1984) but they could also survive for as long as 8 days (Maloiy and Boarer, 1972).

In Kenya, donkeys are found in many areas where they provide transport or act as draught animals. In Garissa, Isiolo and Marsabit, donkeys are virtually the only available means of transport.

Because of the increasing recognition of the usefulness of the donkey in many parts of Kenya and a dearth of information on its health aspects, there is a need to look at the disease problems that may affect its performance in Kenya. This study was conducted to obtain more information on the diseases of donkeys. Such information would assist in the management and formulation of control measures against diseases in order to improve donkey health.

Materials and methods

Some of the six donkeys used in this study were male and some were females, purchased from Limuru area (Kiambu District). The animals were sacrificed and a thorough post-mortem examination conducted on each of them. Any abnormalities encountered were recorded.

Tissues for histopathology were taken from affected organs and fixed in 10% formalin solution, processed routinely according to the method described by Carleton and Drury (1957) and stained with Haematoxylin and Eosin (H and E).

Results

External examination revealed that the donkeys were in poor body conditions. In all cases, the thoracic cavity contained large amounts of blood stained pleural fluid. The lungs were haemorrhagic, oedematous and in some areas emphysematous. Numerous mature Dictyocaulus arnfieldi were observed in the bronchioles and bronchiolar froth. Microscopically, the alveoli of most of the lungs were filled with leucocytes, the majority of which were eosinophils. The bronchioles and the bronchi had leucocytes and an excessive amount of mucous. The exudate occluded the bronchioles in some places leading to consolidation, emphysema and atelectasis of the alveoli. There was widespread alveolar wall necrosis and abscess formation. The alveoli in one of the lungs were filled with red blood and bacterial masses. In this case, the interlobular septa were infiltrated with inflammatory cells, and the abscesses were associated with Streptococcus haemolytica.

In the livers of the donkeys there were traumatic hepatitis and abscess formation. The lesions were associated with Strongylus species larvae. In addition, the bile ducts were thickened. Sections of parasitic larvae were observed to be associated with haemorrhage and cellular degeneration. In all the six donkeys, the liver tissue was heavily infiltrated with eosinophils. Larvae belonging to the species Gasterophilus intestinalis were recovered from the stomachs of two out of the six donkeys. Helminths of the genera Trichostrongylus axei and Habronema muscae were also isolated, each from one of the six donkeys. These were associated with inflammatory reactions of varying degrees of severity. The small strongyles, among them, Cylidoclys radiatus and Cyathostomum cuniculatum,
References


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