

SHORT COMMUNICATION (II)

**Actinobacillosis of the omentum in A Cow**

RINGKASAN

*Satu kes actinobacillosis luar biasa menglibatkan omentum lembu dihuraikan. Walaupun pendapatan histologi lesi adalah menyerupai penyakit ini dengan tepat, bakteria penyebabnya Actinobacillus lignieresii tidak diperolehi dalam kajian kultura. Perimustahaknya penyakit ini dalam segi pemeriksaan daging praktik dibincangkan.*

INTRODUCTION

Actinobacillosis is a specific disease of cattle caused by *Actinobacillus lignieresii*. Typically it is a sporadic disease involving primarily the tonque and also frequently the rumen and reticulum (Till and Palmer, 1960), However atypical cases do occur. Franco (1970) reported a generalised actinobacillosis in a cow involving the heart, liver, kidneys and all cervical lymphnodes, while Mortimer (1962) described a case in a cow involving the oesophagus. An epizootic type of actinobacillosis has also been described in dairy heifers appearing as subcutaneous granulomas (Campbell *et al.* 1975).

This paper reports a case of actinobacillosis involving the omentum in a cow.

MATERIALS AND METHOD

The omentum of an adult cow, at slaughter, showed numerous small nodules. There were no other obvious gross abnormalities in the carcass. One piece each of fresh (in ice) and formalized omentum were submitted to the Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, for laboratory examination. The carcass was being withheld in frozen state and its dis-

posal would depend on the findings of the examination.

The two pieces of omentum submitted were examined grossly. Four nodules from the pieces submitted fresh were submitted to the Department of Veterinary Microbiology, Western College of Veterinary Medicine, for bacteriological examination. For histological examination, several formalin fixed nodules were processed routinely embedded in paraffin, sectioned at 6  $\mu$  and stained with

Fig. 1 *Actinobacillosis of the Omentum in a cow.*



hematoxylin eosin (H & E), Brown & Brenn, Ziehl-Neelsen, and Gomori's Methenamine Silver Nitrate (Grocott's) methods.

## RESULTS AND DISCUSSION

On gross examination, both pieces of omentum exhibited on the parietal surface numerous discrete round pedunculated nodules varying from 0.5 cm to 1.0 cm in diameter interconnected by several pink fibrous tracts (Fig. 1). Each nodule was firm and had a smooth white to pink external surface. The cut surface appeared slightly grey with a soft centre. On cutting it was not gritty and no purulent exudation was apparent.

Microscopic examination of the nodules revealed the typical granulomatous lesions of actinobacillosis characterised by purulent centres surrounded by a thick epithelioid granulation tissue. Within the purulent centres and surrounded by eosinophilic rosettes were colonies of small gram negative bacilli. No acid-fast organisms or fungi were demonstrated. Bacteriological examination of the four nodules gave insignificant results. Only *Streptococci* and *Enterobacter* species were cultured. Nevertheless a definitive diagnosis of actinobacillosis was given on the strength of the microscopic appearance and gram reaction which are highly indicative of infection with *Actinobacillus lignieresii*.

The case is of interest because the omentum is an unusual site to be affected. A search through the literature revealed only one similar report by Beaver (1921) who, however, called it actinomycosis on the basis of microscopic appearance on hematoxylin and eosin (H & E) stain only. Bacterial culture was not attempted.

Another point of interest about omental actinobacillosis is its significance from the practical meat inspection point of view, as it is in this case. On gross examination, it is indistinguishable from omental tuberculosis which is also known as pearl disease, an important zoonotic disease. However, the finding of either disease will lead to total car-

cass condemnation. The referring veterinarian was so advised. Actinobacillosis involving organs other than the tongue and head will deem the carcass unfit for human consumption and will be totally condemned. This judgement is based on the possibility of a systemic involvement of the disease.

## ACKNOWLEDGEMENT

The opportunity for examination of this case was kindly provided by Dr. B. Kessler, Waltrous, Saskatchewan.

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(Received 12 November 1979)