

Histopathological study of internal form of caseous lymphadenitis in sheep (*Ovis aries*)

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Abstract

A case of internal form of caseous lymphadenitis was reported in a sheep. Grossly, the bronchial lymph node was enlarged with greenish – yellow pus. Microscopic examination of lymph node revealed central caseous necrosis surrounded by pyogenic membrane and fibrous tissue proliferation. Based on the gross, cytological and histopathological features the case was diagnosed as caseous lymphadenitis.

Keywords: Bronchial lymph node; lymphadenitis; Sheep; *Ovis aries*.

Introduction

Caseous lymphadenitis is a chronic bacterial infectious disease of sheep and goats. It appears as external form (abscesses in superficial lymph nodes and subcutaneous tissues) and an internal form (abscesses in lymph nodes especially in mediastinal, bronchial and lumbar lymph nodes) (Ivanovic *et al.*, 2009). It can cause major economic losses because infected sheep have to be culled because of poor physical condition and condemnation of affected part at abattoirs (Izgur *et al.*, 2010).

Materials and Methods

In the present study, bronchial lymph node was collected from naturally infected sheep slaughtered in local abattoir of Kadapa district of Andhra Pradesh. The affected lymph node was collected in 10 % neutral buffered formalin and then washed thoroughly under running tap water overnight, dehydrated in different grades of alcohol, cleared, embedded in paraffin wax and blocks were prepared. The cut sections of 4 – 5 microns were stained by routine Haematoxylin and Eosin (H&E) staining method.

Results and Discussion

In the present study, enlarged lymph node with extensive abscessation in between the lungs was observed (Fig. 1). Cut section of lymph node revealed greenish yellowish purulent material (Fig. 2).



Fig 1 enlargement of bronchial lymphnode.



Fig. 2 Cut section of bronchial lymph node revealed greenish yellowish purulent material

Microscopically, the abscess was characterized by central necrotic area surrounded by pyogenic membrane with infiltration of inflammatory cells (Fig. 3 & 4). The abscess was also surrounded by fibrous connective tissue. Impression smear from affected lymph node revealed gram positive organisms.

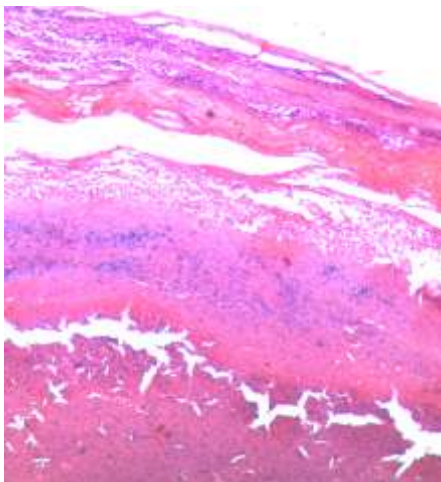


Fig 3. central necrotic area surrounded by pyogenic membrane x40

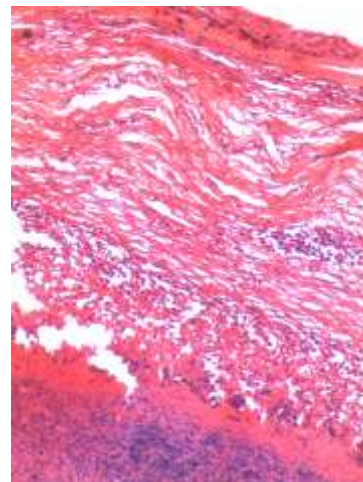


Fig. 4 mononuclear cells infiltration & fibrous tissue proliferation x100

Similar organisms were also observed by Yosefbaigy *et al.*, (2004) and Williamson (2001). In the present study, abscessation of bronchial lymph node of lung was the only observation. Ivanovic *et al.*, (2009) and Estevao *et al.*, (2007) also reported that abscessation of internal organs (Visceral form) especially lungs is most common finding of caseous lymphadenitis in sheep whereas abscessation of superficial lymph node was common in goats. Hence more study should be taken for screening and monitoring this disease to reduce overall productivity of the herds.

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