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Title:

Clinical, and Diagnostic Study of Pneumonic Pasterurellosis in Sheep

Abstract:

This study was built-on clinical investigation of pneumonia caused by *Mannheimia haemolytica* (*M.haemolytica*) and *Klebsiella pneumoniae* in sheep of Basra governorate(West, east, north and south were included), also isolation and identification was done and confirmed the diagnosis by conventional PCR technology.

The blood samples and nasal swabs were collected from 410 local sheep breeds of both sexes, and different ages.

The result showed that from 410 sheep there were 25 healthy following clinical and cultural tests, whom concerned as control group. The remaining 385 sheep were revealed clinical pneumonia, also most important pneumonic signs noticed included: coughing, fever, abnormal lung sounds on auscultation, dyspnea, depression, mucopurulent nasal discharge as well as loss of appetite and isolation from the herd.

The laboratory bacterial culture and biochemical tests for samples from 385 pneumonic sheep appeared *M.haemolytica* in 81(21%) cases while *K.pneumoniae* isolates in 79(20.51%) cases.

M.haemolytica characterised by moist, round, white or grey colony with β-type haemolysis on blood agar. On MacConkey agar showed pink–red pin point colonies, while when stained by gram stain appeared as pink, short rods or cocobacilli and bipolar in methylene blue stain. The biochemical reactions included negative indole, urease and citrate whereas positive for oxidase and catalase tests.

K.pneumoniae appeared as pink - rods in gram stains, white-grey colonies, without haemolysis on blood agar with mucoid consistency and fetid odour, on MacConKey agar showed large pink-reddish mucoid colonies which indicate lactose fermentation, whereas grown on EMB had dark mucoid colonies without metallic shine. The biochemical reactions of *K.pneumoniae* distinct as; positive response for urease, citrate and catalase, and the reactions responded negatively for indole, oxidase and haemolysis.

The PCR technique for *M.haemolytica* indicated that from 81 isolates there were 48 (59,2%) cases had evidence by Rpt2 amplification at 1022 bp., as well as it was specify *K.pneumoniae* from 79 isolate there were 31 (39.2%) cases had proved ecpA amplification at 759 bp. primer for DNA in local sheep of Basra governorate. This study concluded that *M.haemolytica* and *K.pneumoniae* in sheep of Basrah regarded are the most important bacterial pathogens causing pneumonia in sheep.