

Bacteriological ,Molecular and histopathological confirmation of four vaccine against caseous lymphadenitis (CLA)in sheep

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The caseous lymphadenitis disease due to *Corynebacterium pseudotuberculosis* has worldwide distribution and indicate high prevalence in different countries. All strains of *Corynebacterium pseudotuberculosis* have two virulence factors ,the first is an exotoxin virulence factor called phospholipase D that increasing vascular permeability and enhances dissemination of the bacteria by damaging endothelial cells .The second virulence factor is an external lipid coat that protect the bacteria from hydrolytic enzymes in host phagocytes where the bacteria replicate and release when rupture . The ongoing process of bacterial replication, followed by attraction and inducing an inflammatory response , increasing the vascular permeability and lymph flow ,forms the characteristic abscesses associated with CLA .The objective of the present study was directed to perform postmortem examination findings ,bacterial cultures and histopathology for sheep vaccinated by different vaccine formulation to evoke protection against caseous lymphadenitis in sheep . Four formulated vaccines against *Corynebacterium pseudotuberculosis* biotype 1 was tested on 15 male local sheep bread (Balady) . The animals were divided into 5groups. The first vaccine composed of Toxoid PLD, second vaccine composed of Toxoid PLD with Bacterine (formaline killed bacteria), third vaccine composed of toxoid PLD plus Covaccine 8, while the fourth vaccine composed of toxoid PLD plus polyvalent clostridial vaccine locally produced and finally control groups of unvaccinated animals. All groups were challenged by 4×10^6 CFU forming unit per ml of live virulent strain of *Corynebacterium pseudotuberculosis*. Unvaccinated animals showed manifestations of caseous lymphadenitis (CLA) that clearly observed in naturally diseased animals. . Postmortem examination findings, standard bacteriological culture methods for isolation of *Corynebacterium pseudotuberculosis* and tissue preparations for histopathological sections were performed. The most common findings were in the form of abscess formation in the superficial and hepatic lymph nodes, lung were found affected in unvaccinated sheep . Histopathological sections showed lymph node of vaccinated sheep challenge with *Corynebacterium pseudotuberculosis* were apparently normal lymph node, while in Lymph node of non-vaccinated sheep challenge with *Corynebacterium pseudotuberculosis* showing multiple caseated granules with deposition of calcium salts , Histological (transverse section) of Lymph node of non-vaccinated sheep were showed Onion-like typically appearance . *Corynebacterium pseudotuberculosis* was reisolated from infected lesions of lymph node and visceral organ of vaccinated and unvaccinated sheep. The isolates of *Corynebacterium pseudotuberculosis* were identified by synergistic hemolysis assay “ CAMP” and PCR .