

**TITLE:** ANATOMOPATHOLOGICAL CHANGES ASSOCIATED WITH BIOFILM PRODUCTION BY *Corynebacterium pseudotuberculosis* ISOLATES IN GOATS

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## **ABSTRACT**

Caseous lymphadenitis has *Corynebacterium pseudotuberculosis* as etiological agent, and is an infectious disease, which affects mainly goats and sheep and causes great economic losses. This bacterium is highly resistant to environmental conditions and this fact may be associated with its biofilm production capacity. In affected animals, abscess formation occurs in the lymph nodes in the superficial and deep forms, which is the major characteristic of the disease. The aim of this study was to determine the biofilm production by *C. pseudotuberculosis* isolates and to associate them with anatomopathological changes in goats. The study was carried out at the Animal Health Laboratory of the Brazilian Agricultural Research Corporation - EMBRAPA Semiárid - Petrolina/PE. Eleven goats were necropsied, of which seven strains of *C. pseudotuberculosis* were isolated from samples of abscess contents. At necropsies, lesions were found in superficial lymph nodes such as parotid, submandibular, pre-scapular, popliteal and inguinal, furthermore, they were found in the deep form, affecting mesenteric and bronchial lymph nodes, as well as viscera such as liver and kidneys. For the phenotypic characterization of biofilm, the test with 2% violet crystal was used. Bacterial suspensions were incubated in TSB for 48h at 37°C, distributed in polystyrene microplates, and then incubated again for 24h. Biofilm measurement was performed on a microplate reader at a wavelength of 595nm. Of the seven strains evaluated, four presented moderate biofilm production and another three with strong production. According to the macroscopic findings of lesions at necropsies, it was observed that bacteria with a strong biofilm production were more virulent because they generated higher necropsy findings and deep lesions.

**Keywords:** abscess, caseous lymphadenitis, general pathology, necropsy, small ruminants

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