

Isolation of *Branhamella ovis* from Intact Eyes of Calves

A. H. Daghir

College of Veterinary Medicine/Al-Qadisiya University

Abstract

This survey was intend to discover the presence of *Branhamella ovis* bacteria in the intact eyes of calves, the survey includes collection of 50 eye swabs from 50 calves between 3-7 months from different places of Wasit governorate in 2005 between January and the mid of March, the laboratory investigation results reveal presence of *Branhamella ovis* in (17) calves (34%) and the rest of the calves were have negative results.

عزل جرثومة البرانهاميلا اوفس من العيون السليمة للعجول

علي حسن داغر

كلية الطب البيطري/جامعة القادسية

الخلاصة

تهدف هذه الدراسة الكشف عن وجود جرثومة البرانهاميلا اوفس في العيون السليمة (غير المصابة) للعجول. تراوحت أعمار العجول بين 3-7 أشهر حيث تضمنت الدراسة جمع 50 مسحة عينية من 50 عجل من مناطق مختلفة من محافظة واسط للفترة بين شهر كانون الثاني ومنتصف شهر آذار/عام 2005. أظهرت النتائج المخبرية وجود الجرثومة في 17 عينة (34%) والبقية كانت خالية من الجرثومة. وقد استنتج من الدراسة إمكانية عزل الجرثومة بدون ظهور علامات مرضية على عين العجل.

Introduction

The *Branhamella* subgenus belong to the genus *Moraxella* (The genus is divided into *Moraxella* subgenus *Moraxella* which includes all the diplo-rod shaped species, and *Moraxella* subgenus *Branhamella* which contains the diplo-cocci) currently belong to the family *Moraxellaceae*, *Branhamella ovis* colonies appearance on the blood agar media is smooth, round, uniform, grey/brown colonies 1 mm in diameter, Gram-negative, cocci occur singly or in pairs with adjacent sides flattened, non-motile and aerobic, nutritionally fastidious, the optimum growth temperature is 33°C– 35°C, catalase positive, oxidase positive and do not produce acid from carbohydrates (1). *Branhamella ovis* has been isolated from normal eyes and eyes displaying clinical signs of infectious bovine keratoconjunctivitis (IBK) (2).

Materials and Methods

- 1- Sterile cotton swabs (3) (Biolife Company).
- 2- Sterile petri-dishes (3) (Biolife Company).

- 3- Culture media (Blood agar, MacConkey agar, Urea broth for urease production test, SIM agar for motility test, and Simon citrate) (3) (Biolife Company).
- 4- Liquids (Oxidase, and Hydrogen peroxide for catalase test) (3) (Biolife Company).
- 5- Kovac's reagent for indol test (3) (Biolife Company).
- 6- Gram's stain (3).

The swab of conjunctiva, cornea, and sclera from only one eye of (50) intact calves. The swab was cultured directly on the Blood and MacConkey agar and transporting quickly within 1-2 hours to the laboratory to complete the investigation program (3). The cultured media were incubated in 5-10% CO₂ at 37°C for 24-48 hrs (1). Slides were prepared from cultured media and stained with Gram` stain, the motility, and the biochemical tests: catalase test, oxidase test, urease test, simon citrate test and indol test were also done (3).

Results

The bacterial culture showed the presence of *Branhamella ovis* in (17) Calves. The following table shows cultural features and biochemical tests for the micro-organism under the study.

Blood agar colonies	Rounded, grey, and smooth colonies with 1 mm in diameter
MacConkey agar growth	No growth
Hemolysis	Positive β hemolysis
Gram`s stain	Gram-negative diplococci and flattened adjacent sides
Catalase test	Positive
Oxidase test	Positive
Urease test	Negative
Simon citrate utilization	Negative
Indol production test	Negative
Motility	Negative



***Branhamella ovis* colonies on the blood agar**

Discussion

The results of this study revealed that the bacteria of genus *Moraxella* and the subgenus is *Branhamella* which is *Branhamella ovis*. The cultural features of the colonies on the media were rounded, grey and smooth colonies with 1 mm in diameter which was differ from *Moraxella bovis* and *Moraxella catarrhalis* with colonies are smooth, flat, uniform, buff colonies 1– 2 mm in diameter (1). From other aspect the microscopic appearances of the bacteria showed the *Branhamella ovis* appears in diplo-cocci with flattened adjacent sides but the *Moraxella bovis* and *Moraxella catarrhalis* appear in diplo-rod with one plane of division (1). The isolates of *Branhamella ovis* were from intact eyes of calves (2), but *Moraxella bovis* isolates are mostly from diseased eyes of the calves (IBK), but it can be cultured from normal eyes (4), and the *Moraxella catarrhalis* cause Infectious Bovine Keratoconjunctivitis in cattle (5).

From this study the conclusion is presence of *Branhamella ovis* in intact eyes of the calves.

References

1. Farrington, M. (2008). Identification of *Moraxella* species and morphologically similar organisms. Standards Unit, Evaluations and Standards Laboratory. P.P. 5-13.
2. Franks, J. (2003). An Update On Bovine Pinkeye. Indiana Animal Disease Diagnostic Laboratory (ADDL).
3. Coles, E. H. (1986). Veterinary Clinical Pathology. 4th ed. W.B. Saunders company, Philadelphia. P.P. 359-360.
4. Hopkins, F. M. & Gill, W. W. (2005). Pinkeye in beef cattle. Animal Science, Vol.307.
5. Radostits, O. M.; Gay, C. C.; Blood, D. C. & Hinchcliff, K. W. (2005). Veterinary Medicine, A Textbook of the Diseases of Cattle, Sheep, Pigs, Goats and Horses. 9th ed. W.B. Saunders Company Ltd. P.P.598.