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NICOLETTELLA SEMOLINA IN A DONKEY: FIRST CASE REPORT FROM ITALY

Nizza S.^[1], Vecchio D.^[1], Martucciello A.^[1], Alfano D.^[2], Veneziano V.^[3], Corrado F.^[3], De Roma A.^[1], Scognamiglio R.^[1], Guarino A.^[3], De Carlo E.^[3]

^[1]Istituto Zooprofilattico sperimentale del Mezzogiorno ~ Salerno ~ Italy, ^[2]Dipartimento di Medicina Veterinaria e Produzioni animali ~ Napoli ~ Italy, ^[3]Istituto Zooprofilattico Sperimentale del Mezzogiorno ~ Portici ~ Italy

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INTRODUCTION:

Nicoletella semolina is gram-negative bacterium recently described as member of the Pasteurellaceae family(1). *N. semolina* has been isolated from horses with respiratory disorders (2) however it is still unclear if this bacterium plays a role as potential pathogen, opportunistic or just as commensal of the normal bacteriological flora. To the best of authors' knowledge there are no descriptions of the isolation of this bacterium in donkeys. The aim of the present report is to describe, for the first time, the isolation of *N. semolina* in a donkey foal from Italy.

MATERIALS AND METHODS:

Three 2-3-month-old crossbreed donkey carcass (A-B-C) were submitted to the necropsy. Anamnesis reported severe respiratory disorders before death. At necropsy in all foals was reported generalized pneumonia associated with purulent-catarhal collection and emphysema diffuse; the foal A showed lesions in all lung lobes, pericardial effusion and subsequent cardiac tamponade. Samples were collected from lungs and were plated onto two Blood Agar Base and MacConkey agar 55 plates, and incubated aerobically and in microaerophilia at 37°C±1°C for 72h. The plates were observed every 24h. On all isolates were performed identification using the Vitek 2 Compact system (bioMérieux). On the strain isolated from the foal A was performed the sequencing and analysis of 16S rRNA genes. PCR was performed with MicroSeq 500 rDNA PCR Kit (Life Technologies). Amplification products of the 16SrRNA genes were used for cycle sequencing with MicroSeq 500 rDNA Sequencing Kit. Sequence analysis and alignment were carried out using SeqScape v2.5 (Applied Biosystem) and NCBI/BLAST/blastn suite.

RESULTS:

After 24h of incubation aerobic bacterial cultures of all 3 foals (A-B-C) in Blood Agar Base yielded heavy growth of *Streptococcus equi* subsp. zooepidemicus; at the same time point in MacConkey agar plates (foal C) was detected the co-presence of *Salmonella kasenyl*. After 48h of incubation in Blood Agar Base plates (foal B) was isolated *Nocardia* spp. Furthermore at 72h in Blood Agar Base plates (foal A) was detected the appearance of colonies gray, rounded, waxy, nonhaemolytic, nonadherent, similar to a grain of semolina wheat (1). The organism was identified as a pleomorphic gram-negative coccobacillus, nonmotile, catalase and oxidase positive and negative for indole test. 16S rDNA sequencing revealed 99% homology with *N. semolina*.

DISCUSSION AND CONCLUSIONS:

The present report described in the donkey is fairly similar to that noted recently in young horses (3) where is described the isolation of *N. semolina* associated with *Streptococcus equi* subsp. zooepidemicus with respiratory disorders (2). In the donkey is still to be determined whether *N. semolina* is a primary pathogen or a commensal which can occasionally cause disease. Further studies are required to clarify the potential pathogen of this bacterium in the donkeys.

REFERENCES:

1.Kuhnert P, Korczak B., Falsen E., Straub R., Hoops A., Boerlin P., Frey J., Mutters R., 2004. *Nicoletella semolina* gen. nov., sp. nov., a New Member of Pasteurellaceae Isolated from Horses with Airway Disease.

J Clin Microbiol; 42(12):5542-5548.

2.Hansson L, Johansson K.E., Persson M., Riihimäki M., 2013. The clinical significance of *Nicoletella semolina* in horses with respiratory disorders and a screening of the bacterial flora in the airways of horses. Vet Microbiol; 162(2-4):695-699.

3.McConachie E.L., Hart K. A., Wheelchel D.D., Schroeder E.L., Schott II H.C., Sanchez S., 2014. Pulmonary Disease Potentially Associated with *Nicoletella semolina* in 3 Young Horses. J Vet Intern Med 28(3):939-943.