ISOLATION OF RHODOCCUS EQUI FROM CLINICAL BOVINE MASTITIS - A CASE REPORT

S.A. Wani, M.A. Bhat, Sabia Qureshi and A.S. Bachh
Division of Microbiology and Immunology,
Faculty of Veterinary Sciences and A.H. (SKUAST-K), Shuhama (Alusteng), Srinagar - 190 006, India

ABSTRACT

Present communication describes a case of clinical mastitis in a crossbred cow associated with a rare but zoonotic pathogen- Rhodococcus equi. The isolate was found resistant to cefadroxil, ampicillin/ cloxacillin, tetracycline, erythromycin, ampicillin and nitrofurantoin while as it was found sensitive to chloramphenicol, co-trimoxazole, ciprofloxacin, norfloxacin, sulphamethizole, gentamicin and kanamycin. The consumption of such raw milk poses a public health threat.

Rhodococcus equi (formerly Corynebacterium equi) has long been recognized as an important animal pathogen that causes bronchopneumonia, lymphadenitis and ulcerative enteritis in foals (Goodfellow, 1996). Within the genus it is pathogenic species for the animals (Prescott, 1991). Reports of clinical infections once rare in humans are now increasing in frequency. Recently, a significant number of humans infected with human immunodeficiency virus (HIV) have developed Rhodococcus equi pneumonia with lesions similar to foals (Songer and Prescott 1993). Disease is frequently seen in horses less in swine and rarely in cattle, sheep, goats and cats. In cattle, there have been occasional reports of infection and the organism has been isolated from lymph nodes (McKenzie and Donald 1979) and faeces (Mutimer and Woolcock 1980). Only a few cases of bovine mastitis due to Rhodococcus equi have been reported from India (Rahman and Baxi 1983, Garg and Kapoor 1986) but there appears no report of its isolation from Kashmir. Present communication describes a case of clinical mastitis in a crossbred cow associated with a rare but zoonotic pathogen- Rhodococcus equi.

As a part of routine bacteriological examination of milk samples referred to this division from Veterinary Clinic of Faculty of Veterinary Sciences and Animal Husbandry, (SKUAST-K), Shuhama, as well as from private owners, a milk sample from a crossbred cow aged 7 years belonging to a localite was received for cultural and antibiotic sensitivity test. The cow showed swelling of udder, that was painful to touch and discharging curdled milk from right hind teat, which was thick and had flocculation. The cow had been treated with antibiotics but showed little improvement in quality of milk. Before processing, it was ensured that the sample from affected quarter was collected aseptically in a sterile vial. The material was streaked on blood agar and MacConkey's Lactose agar (MLA) plates and incubated at 37°C for 24-48 hrs. The MLA plate showed no growth even on prolonged incubation while isolated colonies were seen on blood agar plate. A well-separated colony was picked up into a nutrient agar slant for further examination. The growth in nutrient agar slant showed development of salmon pink colour. The organism was identified as Rhodococcus equi on the basis of morphological, cultural and biochemical tests (Buchanan and Gibbons 1994, Carter et al., 1995 and Collee et al., 1996).

The isolate was subjected to in-vitro antibiotic sensitivity test using the disc diffusion method described by Bauer et al. (1966). The in-vitro sensitivity test was carried on over Mueller Hinton agar plates using ciprofloxacin, norfloxacin, kanamycin, ampicillin, ampicillin/ cloxacillin, cefadroxil, chloramphenicol, co-
trimoxazole, nitrofurantoin, erythromycin, gentamicin, sulphamethizole and tetracycline discs supplied by HiMedia. Interpretation of the isolates as sensitive or resistant was made as per standard procedures. The isolate was found resistant to cefadroxil, ampicillin/cloxacillin, tetracycline, erythromycin, ampicillin and nitrofurantoin while as it was found sensitive to chloramphenicol, co-trimoxazole, ciprofloxacin, norfloxacine, sulphamethizole, gentamicin and kanamycin. 

On inquiring about the clinical history the owner revealed presence of horses in the vicinity of cow shed. The owner was made aware of the public health significance of the organism and chances of picking up of infection from such mastitic milk. Isolation of *Rhodococcus equi* from clinical mastitis is alarming in view of its increasing reports of isolation from immunosuppressed (HIV infected) individuals. The consumption of such raw milk poses a public health threat.

ACKNOWLEDGEMENT

The authors are thankful to Prof. M.Y. Kamal Vice Chancellor, SKUAST-Kashmir, for providing facilities. Technical assistance rendered by FCLAs of the division is duly acknowledged.

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