Bacteriological Analysis of Tumorous Tissue Mass Collected from the Udder of a Clinically Affected Mastitic Dairy Cow

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ABSTRACT
The present article reports on the bacteriological examination and antibiotic sensitivity test of the tumorous mass sample collected from the udder of a crossbred cow suffering from clinical mastitis.

Key words:*Crossbred cow, Bacteriological analysis, Milk, Tumorous mass*

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INTRODUCTION

There are many different types of tumors and a variety of names for them - their names usually reflect their shape and the kind of tissue they appear in. Atumor is a kind of lump or swelling, it does not necessarily pose a health threat.When clinicians or doctors use the term tumor they generally refer to it and not about the size of the lesion. A mass usually refers to a lump which is at least 20 mm (0.787 inches) in diameter at its widest point, while a nodule is less than 20 mm at its widest point (Ganguly*et al*., 2015).

The present study was conducted to identify the etiology and the antibiotic preparations which show sensitivity against the various pathogenic agents involved in the tumorous tissue mass sample obtained from the clinical case of mastitis of a crossbred cow.

MATERIALS AND METHODS

The tumor mass sample was collected after surgical excision from the affected quarter of the clinical affected udder of a cow exhibiting clinical symptomsof mastitis presented to the Teaching Veterinary Clinical Complex (T.V.C.C.) of the college.The tissue mass was solid and lumpy growth in consistency with irregular surface. The collectedtumor mass sample was then brought to the Department of Veterinary Microbiology during October, 2015 for bacteriological examination and reporting.

The tumor mass sample was examined bacteriologically (Buxton and Fraser, 1977) by culturing on nutrient agar plate and salt agar plate (containing 8-10% NaCl) and by staining by Gram's Method followed by antibiotic sensitivity test by Kirby-Bauer antibiotic disc diffusion assay method on Mueller-Hinton agar with certain modifications (Sinha, 2006) using antibiotic discs provided by the supplier (Titan Biotech Ltd., Bhiwadi, Rajasthan, India). The concentration of the antibiotic preparation in each disc was as per the specification of the manufacturer. Incubation of the petridishes layered with the agar containing antibiotic discs was done at 37°C for 24 h in a B.O.D. incubator installed at the department.

RESULTS AND DISCUSSION

The overnight incubated nutrient broth culture of the tissue sample was subjected to spread plate culture on Nutrient agar and salt agar media plates. After incubation at 37°C for 24 h it revealed the presence of circular, convex, glistening colonies with full regular edges on the agar media. Grams' method of staining revealed Gram positive cocci shaped organisms arranged in the form of clusters or clumps when examined under the high power magnification of the compound microscope. The bacteria was bacteriologically determined to be grouped under *Staphylococcus* spp. (Cruickshank *et al*., 1975; Buxton and Fraser, 1977; Finegold and Martin, 1982; Ananthanarayan and Paniker, 2009).

Antibiotic assay revealed the bacterial isolates to be highly sensitive to the antibiotics, Chloramphenicol and Amoxicillin with low degree of sensitivity to Gentamicin. The degree of sensitivity was determined on the basis of zone of inhibition formed by the isolated bacteria after exposure to the particular antibiotics.

The results obtained on cultural properties of the bacteria and its antibiotic disc diffusion assay revealed in the present study was in agreement with the findings of Paul *et al*. (2013), Patnaik*et al*.(2013), Ganguly (2013), Tiwari and Kashyap (2011) and Sahoo and Ganguly (2015).

CONCLUSION

The present study revealed the presence of *Staphylococcus* spp. of bacteria in the timorous mass collected from the affected cow. The bacterial strain was found to be sensitive to broad spectrum antibiotics which was reported and recommended to the T.V.C.C. for their administration in divided doses on alternate daily intervals preferably in mixed preparations.

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