



Resistant Pasteurellosis

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Pasteurellosis has been recorded from many parts of Kollam District.

The outbreak reported from Kulathupuzha points to the need of a revised approach in treating the disease.

Hemorrhagic septicemia in cattle is due to the bipolar staining organism *Pasteurella multocida* and the drug of choice is supposed to be sulphadimidesodium injection.

Recently there was an outbreak of unknown disease. The heifers in a herd at dolly in kulathupuzha were showing very high temperature and respiratory distress. These animals were dying inspite of treatment. The Chief Disease Investigation Office was contacted by the local Veterinary officer to investigate the problem. Blood smears were taken from the affected animals and bipolar staining organisms were detected in plenty on Leishman staining. Tentative diagnosis of Hemorrhagic septicemia was communicated to the authorities and sulphadimidine sodium injections were rushed to the site.

Even after treatment with sulpha the affected animals succumbed and the diagnosis was questioned. A detailed

study was done. Postmortem examination revealed severe pneumonic lesions. No oedema was noticed. Severe congestion was noticed on all the visceral organs.

Blood samples were taken from different animals in the herd. By this time there were pyrexia cases reported from many parts of the area at about 5 km radius. Some of the animals were showing edema also. Blood samples were taken from four different areas.

Materials and methods

The clinical findings were recorded from four different groups affected from a radial distance of about 5km. Peripheral blood smears were taken and stained with Leishman's stain. Blood samples were taken aseptically and cultured in nutrient broth, agar plates and Mckonkeys agar. The biochemical properties of the organism were recorded and sensitivity to various antibiotics were found.

OBSERVATIONS

SAMPLE.1.

These animals were from the point of initial outbreak. Pyrexia exceeding 105°F and respiratory symptoms were most predominant.

The blood smears showed bipolar staining gram-negative organisms. These were non-motile. Growth was observed in the Mckonkeys agar. It was producing haemolysis. Capsules were present. Catalase positive and hydrogen sulphide positive and raffinose positive.

Sensitivity results were as follows.

Sensitive- Chloramphenicol, ciprofloxacin
Intermediate- Tetracycline, oxy tetracycline
Resistant- Sulphadimidine, amoxicillin, bacitracin, streptomycin, ampicillin.

SAMPLE.2.

These animals were showing high temperature. Respiratory distress was also noticed. The blood smears showed bipolar staining gram-negative organisms. These were no motile. Growth was observed in the Mckonkeys agar. It was producing haemolysis. Cap-

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sules were present. Catalase positive, hydrogen sulphide positive and raffinose positive.

Sensitivity results-

Sensitive - Chloramphenicol, ciprofloxacin Tetracycline, oxytetracycline

Intermediate nil

Resistant -Sulphadimidine, amoxicillin, bacitracin, streptomycin Ampicillin.

SAMPLE. 3 & 4.

These animals were showing high temperature. Edema was noticed in the dependant parts mainly in the brisket. The blood smears showed bipolar staining gram-negative organisms. These were non motile. No growth was observed in the Mckonkeys agar. No hemolytic zone was noticed. Capsules were present. Catalase positive and hydrogen sulphide positive and raffinose negative.

Sensitivity results-

These animals were showing high temperature. Edema was noticed in the dependant parts mainly in the brisket.

Sensitive- Sulphadimidine, bacitracin, Chloramphenicol, ciprofloxacin, Tetracycline, Intermediate- Amoxicillin oxytetracycline.

Resistant-streptomycin, ampicillin.

Discussion

Outbreaks of Pasteurellosis can become a major concern in immediate future. Variant strains of *Pasteurella* are responsible for the outbreak. As evident from this study the organism in sample 3&4 is *pasteurella multocida* whereas the initial two samples were a variant strain possibly *pasteurella haemolytica*. Resistance to sulphadimidine points to the need of a **multiple drug therapy** in a suspected outbreak. The need of vaccinating cattle against this disease is to be emphasized.

Conclusion

The outbreak was successfully controlled by treating the affected animals with sulphadimidine or sulphatrimethoprim along with high doses of oxytetracycline. Massive vaccination programme was launched in the panchayat and the neighboring areas.

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