

Observations on Aureomycin Therapy

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A wide variety of infections is found in the clinical material submitted to the Veterinary Clinic at Iowa State College. Some of these infections are relatively easy to control by pharmaceutic, biologic or antibiotic agents, by surgical procedures or by combinations of these methods. Other types of infection have proved themselves to be stubbornly resistant to such agents and methods as have heretofore been available to the clinician. An organism belonging near the head of this list is *Corynebacterium pyogenes*. Short of surgical amputation of infected parts little benefit could be obtained by methods of treatment known up to the present time. This organism localized in nearly any organ, structure or part of the body, especially in bovines, having been found from the feet to the brain of cattle autopsied at the Veterinary Clinic post mortem laboratory.

Recently a supply of newly developed antibiotic known as aureomycin was made available to the Veterinary Clinic for experimental use on animals. The purpose of this was to gain information as to what types of infections might be controlled by its use, on what species of animals it could be used, methods of administration, side or after effects, some ideas of dosage and length of treatment. Needless to say the use of aureomycin was directed toward those types of cases which were not amenable to known

treatments and to those which would otherwise involve rather drastic surgical procedures with unfavorable prognosis.

Results Obtained

Some interesting results have been obtained in the limited group of cases in which aureomycin has been used to date. These cases are too few in number to justify drawing many definite conclusions but there is reason to hope that the veterinary clinician has a valuable addition to his therapeutic weapons. A certain amount of information has been gained concerning dosage, methods of administration, species of animals treated, length of treatment and side or after effects. The suggested dosage was one gram per 200 lbs. body weight per day, continued for four days, then reduced 50 percent for the rest of the treatment. Aureomycin is cumulative in tissue cells and the reduced dosage will maintain an adequate therapeutic action even after it disappears from the blood. This is in contrast to the sulfonamides where a certain blood stream level or concentration must be maintained. This dosage seems to be adequate although in some cases it was increased by as much as 500 per cent with good results and no toxic effect. Treatment should be continued to effect, depending on results. In herbivorous animals aureomycin cannot be given per orum because it inhibits or destroys the bacterial flora of the intestinal tract, causing an immediate loss of appetite and intestinal functions in general. It is irritating to tissues when in-

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jected subcutaneously or intramuscularly, least in bovines and equines but apparently less so in canines. Small quantities accidentally injected intradermally or subcutaneously produced swelling and induration lasting five to seven days but apparently no necrosis or sloughing. In equines and bovines a 2 per cent solution given by the intravenous or intraperitoneal routes causes no visible reaction, either local or general and can be given rather rapidly.

Some Case Reports

The cases treated include two horses with alveolar periostitis and sinusitis and one horse with sinusitis due to traumatic injury. After a course of aureomycin therapy all pus formation ceased and the odor of necrotic bone disappeared. The infections involved were not identified. Four cattle with necrotic laryngitis due to *Corynebacterium pyogenes* were treated with aureomycin and all made complete recoveries. These were cases with an extremely unfavorable prognosis under any previous type of treatment. Two cattle with *Corynebacterium pyogenes* abscesses about the head and throat were treated with aureomycin and healed satisfactorily with a minimum of surgical drainage and scarring. One cow in a moribund condition from an advanced case of *Corynebacterium pyogenes* mastitis was placed on aureomycin therapy. The mastitis was not cured but the cow lived and gained weight. A cow with clinical symptoms similar to those seen in Listerellosis made an immediate response and complete recovery on a short course of aureomycin. A five week old calf suffering with the pneumonia-enteritis syndrome commonly called calf scours and in a moribund condition was given a four day course of aureomycin. In 24 hours a startling improvement was noted and in four days it was discharged as cured. Another calf, two days old, very sick with calf scours, from a herd where all newborn calves had died early was brought in. It was given 200 cc. of cow's blood and one large dose of aureomycin. In 18 hours it appeared normal. It was

kept under observation for a week with no signs of a relapse seen. These two calves made the most remarkable recoveries of any in this series.

When consideration is given to the fact that all of the cattle in this study could have been expected to die it would seem that veterinarians have reason to hope that aureomycin will be a very valuable drug. It will be interesting to continue this study.

* Courtesy Lederle Laboratories.

Marshall Plan Study

A Marshall Plan study of animal genetics took two Irish livestock breeding technicians to five U. S. colleges and the Chicago stockyards early this year, the Economic Cooperation Administration reported.

The study is being made by John Beatty and Edward O'Mahony of Ireland's Department of Agriculture, under an ECA technical assistance project. They arrived in the United States Jan. 13. Beatty returned to Ireland Feb. 18, but O'Mahony will remain here for six months.

O'Mahony's study was announced previously by ECA as one of five livestock research projects for technicians from Ireland's Department of Agriculture. Subsequently, the Irish Government requested that Beatty accompany O'Mahony for one month to obtain information on American livestock programs to improve milk and meat production.

According to a recent bulletin from the Gaines Dog Research Center the total dog population of the U.S. is approximately 22,000,000; the average dog in the United States today is 3.9 years of age; one dog owner out of four has more than one dog; for the country as a whole there are 1.4 dogs per dog-owning family.

Scottish terriers seem to be predisposed to leukemia.