Benadryl in Veterinary Practice

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THE GENERAL practitioner of veterinary medicine is from time to time confronted with many non-specific diseases in animals where the causative factor is either unknown or it is uncertain, and were it not for the fact that many of these conditions are transitory or seasonable in nature, the futility of our treatment would often be more obvious. Practitioners every summer season experience a variety of skin eczemas in dogs, sneezing and bronchial coughs in dogs and cats especially during that period when ragweed is prevalent. It is also common to see many acute cases of conjunctivitis in dogs during the early fall hunting season, and at various other seasons, in different species of animals, rhinitis, bronchostriction, pruritus and stomatitis.

It was the writer's opinion that a high percentage of such diseases were allergic in origin so a decision was made to treat as many cases as seemed clinically advisable with an anti-allergic agent.

Benadryl Hydrochloride P. D. was the agent selected, and so effective was this preparation in many instances, that it could be almost regarded as an allergy diagnostic agent. Benadryl in human medicine has been successfully used as an anti-histaminic agent in various allergic entities and has been employed to a lesser extent as an anti-spasmodic.

Benadryl has been effectively used parenterally in acute asthma, serum reaction, angioneurotic edema — especially that associated with insect bites, acute urticaria irradiation sickness and certain drug reactions as from penicillin, liver extract and insulin. It has also been used in those chronic conditions in which the oral form of therapy is employed but where it is felt the parental form was preferable in more acute stages.

In humans the side-effects characteristic of parasympatholytic drugs — drying of secretions, disturbance of vision and change in heart rate — are not frequently observed following the administration of Benadryl. Transitory drowsiness, the most frequent side-effect of Benadryl, is variable and may be overcome by a slight reduction of dosage and the administration of stimulants or ephedrine.

In the limited number of cases which came under observation, no side-effects of any importance could be recorded in animals treated with Benadryl.

Drowsiness, the common or most likely side-effect in humans, was not noted in animals, but this might have been because a somewhat low dosage was used in all the initial cases treated. Some thirty to forty cases were treated with Benadryl during July and August and, as no hospital is maintained, the owners' reports were the basis of record in about 50 per cent of the treated cases, the other 50 per cent, living in close proximity of the offices, were asked to bring back their patients for further examination. This was the best possible method that could be worked out to assess the value of this anti-allergy anti-histamine agent in general practice.

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A few case reports where the use of Benadryl was better than average are given herewith:—

A. Persian Kitten, age 2 months.

This patient was brought in to the office at 6:00 a.m. because the owner felt that it would die from exhaustion if left much longer.

Symptoms.—Choking spasms would be the most obvious way of describing the symptoms. The first conclusion was that there must be some foreign body in the throat or larynx.

Examination of the throat showed an edematous inflammation with a slightly cyanotic appearance. Eyes were showing some lachrymation but nasal passages appeared normal. Owner knew of no change in diet, or injury, or foreign body, that could have caused such symptoms. On the previous day the kitten had played normally but had not been keen on its food, either liquid or solid.

Treatment.—With such acute symptoms, the first thought of treatment was some form of relaxant sedative, but this was delayed until Benadryl had been given a trial. Ten drops of the elixir were given orally and the first reaction was that of profuse salivation; this, however, was of short duration and within ten minutes some relief from the spasms was evident. This patient was returned home with the owner, and he was advised to give further doses at two-hour intervals, if indicated. At 4:00 p.m. the same day, the owner returned to pay his fee and report that the kitten seemed normal and had taken some milk. No further treatment was given and the kitten is now normal in every respect.

B. Irish Terrier, age 3 years — male.

This animal was presented at the office at 6:30 p.m. and showed extreme symptoms of urticaria, itchy skin, swollen lips and gums, area about the eyes very badly swollen and edematous to the point where it was difficult for the animal to see clearly.

History.—Owner had entertained a stag party on the previous evening and some of the guests had fed the dog large amounts of rare old cheeses including Gorgonzola and Blue Cheese.

Treatment.—Consisted of the oral administration of 25 mgs. Benadryl in capsule form, repeated at a 12-hour interval. Swelling and itch was almost gone the following morning.

Here was an excellent case on which to use the parental solution which would have afforded the patient speedier relief and probably more favourably impressed the owner. Unfortunately, no parental solution was available at the time, hence the use of oral medication. It is realized that cases of this type of urticaria will generally take care of themselves in 24 - 48 hours but the use of a rapid-acting and effective parental solution would be good practice.

C. Boxer Terrier, male, 5 years.

This animal had for two consecutive years been brought in to the office with an acute conjunctivitis and on each occasion responded to two injections of sterile milk, subcutaneously, and a zinc sulphate-boracic wash. For some reason this year the usual treatment was not effective, so Benadryl capsules, 25 mgs., were prescribed, morning and evening, for six days.

The owner returned the patient in four days and asked if it was necessary to continue treatment. Owner was advised to give the occasional capsule if inflammation showed signs of recurring. It was also learned at this time that the dog had the privilege of running at large at a country home where many weeds and flowers were prevalent.

D. Cocker Spaniel, 9 years, male.

Typical of many old dogs presented to veterinarians during the summer months, this animal manifested a variety of symptoms — eczema, pruritus, stomatitis largely due to tartar and caries of the teeth, bronchial cough and sneezing. The owner of this patient was mostly concerned with the cough and the sneezing; the former because it kept the owner awake at night, and the latter because the nasal discharge, although watery in nature, was taking a toll of furniture and automobile upholstery.

The usual method of treatment in this animal would have been, briefly, to do what dental work was necessary, use cocillana compound along with digitalis stramonium-belladonna tablets for the cough, clean anal glands and use a resorcin ointment for the pruritus, try a dermal lotion for the eczema, and leave the sneezing to nature.

The treatment followed was to clean up the teeth in the usual manner and orally administer 25 mgs. of Benadryl morning and evening until some relief was obtained. At the end of five days, owner reported pruritus and sneezing completely relieved but bronchial cough still persisted to a lesser degree. No improvement was noted in the eczema, but owner was sure that dog scratched itself less — this may be that the side-effect, drowsiness, deprived the dog of some ambition to scratch; as such, it could be beneficial. Treatment of this case is being continued with a reduced dosage.

E. Cats (2), ages 2 years and 5 years.

These animals to all appearances were healthy and in good condition, but they had persistently snuffled over a period of twelve to sixteen months with varying degrees of intensity.

The owners of these cats never seemed to weary of bringing them in for treatment which, on different occasions, consisted of sulfanilamide, mixed feline bacterins, autogenous bacterins and feline serum, along with vasoconstrictor nasal drops.

Elixir of Benadryl was prescribed but as both animals were intolerant to oral medication, it became a difficult task to administer a liquid. In spite of this difficulty, however, some improvement was noted so a change was made to the 25 mg. capsule and while complete results cannot yet be determined, there is every appearance of having finally arrived at the correct form of therapy.

F. Cat, Persian, age 2 years.

Symptoms could well have been described as an acute rhinitis; eyes watery, throat inflamed, mucus-like nasal discharge which was freely expelled at each spasm of sneezing. Temperature was slightly above normal with some lethargy and partial loss of appetite. In previous similar cases sulfanilamides have been used and credited with giving

results, but results obtained from that type of therapy could not be compared with the speedy relief obtained from Benadryl.

The administration of a single 25 mg. capsule practically eliminated all symptoms in 24 hours. A prescription was written for four 25 mg. capsules with a signature of one every 48 hours; however, the owner felt completion of treatment was unnecessary and only gave two doses.

Since starting to compile data for this paper, attention has been drawn to several case reports recently published in the U. S. A. and Great Britain. These are of particular interest because of the similarity of cases and also because they give some indication of dosage and are quoted herewith: In the *North American Veterinarian* for August, there is an article "Allergic Canine Dermatosis" by J. Autelyses, D.V.M., in which he reports satisfaction from the use of Benadryl in 25 - 50 milligram doses, orally or parentally, repeating as required.

One case is that of a four year old Boston male with intense general pruritus and erythema. After trying various local treatments, without success, all local treatment was discontinued and one 50 mg. Benadryl capsule was given. Within a few hours improvement occurred and in two days' time, patient was discharged in normal condition. In all, eight 50 mg. Benadryl capsules were given to this patient.

Case No. 2 was a female Fox Terrier, three years old, suffering from an intense pruritus which had caused trouble over two seasons and made the dog very irritable. A 30 milligram dose of Benadryl was given subcutaneously, since it was impossible to give oral medication because of the dog's temperament. Administration of the 30 mg. doses subcutaneously for three days brought the skin of the patient to a normal condition and the temperament was such that she was easily handled.

There were three subsequent attacks of pruritus which occurred in this patient on the 6th, 15th and 31st day after treatment and each was controlled by a single injection of 30 mgs. and no further attacks occurred.

Michigan State College has reported good results in 80 per cent of cases of allergy in animals treated with Benadryl. They use one milligram of Benadryl per pound of body weight every 12 hours. Benadryl also proved useful in some obscure forms of eczema, chronic sinus drainage and dry, cracked, scabby nostrils in dogs.

J. E. Mosier reported in *Veterinary Medicine* for December 1946 that Benadryl was used successfully in treating 17 cases of non-specific bovine stomatitis. Doses used varied from 120 mgs. three times daily, 300 mgs. twice daily, to 50 mgs. per 100 pounds body weight.

In the British Journal, *Veterinary Record* for October 1946, Benadryl is recommended for treatment in shock cases in animals due to liberation of histamine from tissue cells into the blood stream.

In the field of human medicine a great deal of important work on the part histamine plays in allergies has been done by Cohen, Freedman, Horton and others.

It is the opinion of many investigators that the common denominator of allergic diseases and probably certain other diseases not at present recognized as being allergic in origin, is an underlying edema provoked by the release of histamine or histamine-like substances (H substance). According to Horton[1] such edema is clinically recognized at certain times of the year as hay fever and at other times as a vasomotor rhinitis.

In the skin, localized edema manifests itself clinically as urticaria and angioneurotic edema.

In an excellent review of the immunological principles of allergic reactions Cohen[2] states that, since cutaneous reactions to all allergies are clinically and pathologically the same, it may be assumed that such reactions are mediated by some toxic substance released from tissue cells. Many investigators now believe this toxic substance to be histamine (H substance).

In the field of veterinary medicine there is unquestionably a need for further study by our physiologists and pathologists on the part histamine plays as a causative factor in many animal diseases now regarded as being caused primarily by viruses or bacteria. The partial response obtained from the use of drugs, anti-biotics or biologics in many allergy-possible diseases might be because we are treating secondary infections that found histamine affected tissue favourable to their growth.

There are several upper respiratory infections in calves and swine that would warrant some other treatment than used at the present time. The veterinary practitioner has a responsibility not only to his client but also to his fellow veterinarians engaged in research work. Passing through the busy practitioner's hands are many cases that defy diagnosis and treatment but, because they do not reach epidemic proportion, very little is done about them. The natural result of this is that veterinary research has been almost entirely directed towards contagious and parasitic diseases which are of greater economic importance. In this field of allergy we probably have many more cases than we at present realize and it is the hope of the writer that this brief paper will stimulate some interest in the histamine factor of some of our animal diseases.

Acknowledgment

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References

1—HORTON (P.D. Lit.) Proc. Staff Meeting Mayo Clin. 20-417, 1945.
2—COHEN, (P.D. Lit.) J. Allergy 15-274, 1944.

Communication to the Editor

THE VETERINARIAN of today is a vastly different fellow from the graduate of twenty five to fifty years ago. In fact, with his being packed full of the scientific nomenclature of the last decade, he or she is almost a frightening personage, but to fully fulfil the vocation, they have, as the saying is — "To get down to the grass roots!"

In earlier times the veterinarian was a horse doctor, cows he would condescend to treat, sheep and pigs not worth the effort, as for dogs and