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Occupational Diseases of Veterinarians

Abraham Barton
Class of 1940

There are many diseases that the veterinarian may acquire due to the peculiar nature of his work. It is the purpose of this paper to catalogue these diseases in a concise though useful manner in order that they might be recognized, be given proper attention and that adequate prophylactic measures be determined. The discussion is based on a study by Professor Axel Thomsen of the State Veterinary Serum Laboratory at Copenhagen, the summary of which appeared in the Veterinary Journal (94:4, 1938, pp. 140-157). The study was made by sending a questionnaire to the veterinarians of Denmark, and the conclusions were drawn from the ensuing correspondence. Though it is fully appreciated that the data are Danish and also subject to scientific inexactitude, it is deemed, nevertheless, of substantial value to American veterinarians.

Diseases such as rheumatism, sciatica, colds, psychopathic disturbances and the like are not considered, since those diseases are properly associated with various painstaking labors, in addition to veterinary practice. The diseases will therefore be discussed under the following headings: (1) Infectious Diseases, (2) Allergic Diseases and (3) Idiosyncrasies.

Infectious Diseases

Ringworm: This disease is the one most frequently acquired by Norwegian veterinarians. Infection may be transmitted from horses, swine and calves, but it is mainly acquired from cows on rectal palpation or obstetrical manipulation. This is associated with the fact that in the cow ringworm is often localized at the root of the tail.

In veterinarians the lesion will most commonly appear on the arms, wrists or hands, may appear on the shoulder, neck, chest, back, face (especially chin) and rarely on the finger nails. The lesion is a circular, reddish, scaling dermatitis.

The disease ordinarily takes a benign course under mild therapeutics, but may sometimes be malignant and very refractory to treatment. Any of the following treatments are indicated: tincture of iodine, (daily, five to six times on the first day), sulphur ointment, naphthol ointment, creolin (85 parts, with formalin 15 parts), salicylic-sulphur ointment (salicylic acid 3, precipitated sulphur 3, vaseline 94) along with other preparations. X-rays in single doses are recommended in severe cases.

Mange: This disease is relatively rare. It is acquired mainly from horses and dogs and presents lesions on the arms, legs and feet.

Erysipelas (Erysipeloid): This disease ordinarily occurs as a result of cuts, tears or pricks of the fingers during autopsy of erysipelous hogs. It may also enter the body through any other continuity breaks in the skin, or through faulty handling of the serum needle. The lesion proceeds from the point of injury up the hand, and may spread to several fingers, but it seldom proceeds up the arm. The lesion appears as a dark red, itchy, painful progressive dermatitis. On the hand it sometimes appears as an erythema nodosum with quadrilateral elevated flakes. As a rule it takes an acute course (8 days to 4 weeks) with either spontaneous recovery or relapse. The disease is said to be more severe in veterinarians than in other humans.

For treatment hot antiseptic compresses are recommended, also 10-20 cc. anti-erysipelas serum intramuscularly, and also

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10\% chromic acid, locally, which may be repeated three to four times a day.

**Furunculosis, Carbuncles, Pustules:** Furuncles appear very frequently. They are here designated as purulent inflammations with necrosis, produced by staphylococci, occurring around deeper parts of hair follicles; while furunculosis signifies a repeated or multiple appearance of furuncles. They occur nearly always on the arms, but may extend to the hands or trunk. Lymphangitis and lymphadenitis may accompany them. They are mainly acquired from genital tract examination and obstetrical aid.

As a preventive the arms should be rubbed with a thick oil and borated vaseline before examination, and after examination washed with water disinfected with chloramine solution. In early stages, the disease may be treated with pure carbolic acid, ichthyol, or Lugol’s solution (1-3-10). In later stages the Paquelin burner cauterization is most reliable. Vaccination is also a possibility.

Carbuncles refer to fusions of furuncles. They occur less commonly than furuncles, and are treated in the same manner.

Pustules commonly occur for various reasons, but are ordinarily so benign as to be of no particular consequence. “Pustular eczema” has also been reported.

**Cellulitis with Lymphangitis, Lymphadenitis and Abscess Formation:** In Denmark this disease is very prevalent. It has the same causes and preventive measures as furunculosis. It can be treated by bathing in hot soap suds and hot antiseptic compresses. Hot ichthyol with cotton seems to help.

**Skin Tuberculosis (Tuberculosis Verrucosa):** This disease seems to infect meat inspectors in particular. The organism gains entrance, ordinarily, by cuts and scratches from infected sharp bones. The lesions commonly localize on the fingers and especially the knuckles. The course is usually benign under proper treatment, though sometimes relapse occurs, and a case of finger amputation as a result of this disease has been reported. It may be treated with carbon light (ultra-violet) or X-ray therapy, strong Lugol’s solution or tincture of iodine. Radium has been given special recommendation.

**Skin Anthrax (Malignant Carbuncle):** Though this disease is seldom fatal its course is long and painful. It occurs about 4 to 8 days after an anthrax autopsy, and the infection appears as a little red nodule, simulating an insect bite, which quickly acquires a vesicle filled with serohemorrhagic fluid, and which rests on a hard infiltration of the deeper layers of the skin. “Within a few days the center of the vesicle is replaced by a small brown or black scab, surrounded by a wall of firm red edema, on which is seen a ring of vesicles or just a few. Gradually the first ring of vesicles turns into central necrosis, and new vesicles are formed outside. The hard infiltration extends rapidly in the deeper layer, and a firm cyanotic edema may occupy the

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three week intervals. Recovery in heavy infestations takes from two to four months. In most cases the only treatment necessary is to confine foxes to pens with wire bottoms. The type of wire used is one inch hexagonal mesh, No. 16 steel wire galvanized after weaving. The inside dimensions of the pen are 16 x 6 x 6 feet, with houses and nest boxes provided.

There is no drug that has proven of any great value in this condition.

**Bladder Worms:** This is a fine, thread-like worm which weaves itself into the urinary bladder and occasionally the pelvis of the kidney. It produces a cystitis but is not generally considered a serious menace. There is no curative treatment. Prevention appears to consist mainly of pen sanitation.

**Tape Worms:** This parasite is not very common in ranch foxes but is frequently encountered on a few ranches where fish and rabbits are fed raw. Since no work has been done in treatment for this parasite, any recommended treatment should be attempted only with greatest caution.

**Flukes:** This disease appears to be more or less confined to the Pacific northwest where it is referred to as salmon poisoning. There is no treatment for this disease once symptoms develop. The preventive measures are feeding of fish only after cooking or subjecting it to prolonged freezing.

**Coccidia:** This parasite seems to be very common in all foxes. It may cause severe digestive disturbances such as severe diarrhea with passing of blood in the feces. The symptoms are bloody diarrhea, unthriftiness, roughening of the fur, anemia, weakness, and emaciation. Very few deaths occur from this disease in foxes. It may be controlled by proper pen sanitation, but there is no known medicinal treatment to rid foxes of this disease.

In addition to the mentioned diseases and parasites, foxes are very susceptible to infections with the common pus-producing organisms, and many times abscesses may develop from such infections following wounds or unclean vaccination needles. Foxes are also susceptible to many of the non-specific diseases such as enteritis, gastritis, and several others common to other species of animals. Many other conditions may occur such as mineral poisoning, fractures, and other injuries which are dealt with in the same manner as similar conditions in other animals.

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**OCCUPATIONAL DISEASES—**

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"...entire extremity. At the same time there is edema and swelling of the regional lymph glands."

Most lesions appear on the forearm and wrist. The organisms often go through unbroken skin, and may withstand disinfection with Lugol's solution and sublimate and also thorough washing. The disease is treated with antiseptic compresses and ointments. Anti-anthrax serum intramuscularly and neosalvarsan intravenously are recommended.

**Undulant Fever:** This disease is not as important in veterinarians as might be imagined. Younger veterinarians seem to be affected with it for a while, but older veterinarians appear to acquire an immunity to the disease. Thomsen urges veterinary students to undergo vaccination with abortus vaccine before they go into practice.

**Equine Stomatitis:** The disease is manifested by small blebs in the mouth, and partly by pustular dermatitis of the hands and face. Infected persons may transmit the infection to horses.

**Cowpox:** This condition has been reported, but is of small consequence as an occupational disease of veterinarians.

**Foot and Mouth Disease:** This condition takes an acute benign course. It is characterized by fever, blebs in the mouth, lips, between the fingers and around the nails and on the hands and toes. It is of importance mainly in that it can be transmitted to cattle.

**Other Infections:** Conjunctivitis, panaritium, abscesses from strangles abscesses, chicken pox and malignant edema.

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have been reported but are not considered to merit special discussion.

Allergic Conditions

Brucella Skin Eruption: This affection is characterized by closely packed follicular papules with pustules and necrosis, and it occurs in connection with obstetrical work. It may be prevented by proper oiling and cleansing of the arms, and the maintenance of antiseptic precautions at all times. It is treated by common antiseptic therapy combined with such light therapy as mercury quartz vapor.

Other Allergic Conditions: A condition has been conveniently described as "Spring eruption." This refers to a syndrome characterized by closely packed "knobs" without pustule formation. It seems to be associated with genital and rectal examinations and work in obstetrical aid. It ordinarily affects the arms, though it might affect the whole body. It can be prevented in the same manner as brucella skin eruption, though long rubber gloves are also recommended. The condition is treated with light and X-ray therapy.

Other allergies might be due to horse hair, horse scales, cow hair, chicken feathers and the like. Accidental tuberculin injection may take place when dealing with violent animals.

Idiosyncrasies

Various idiosyncrasies have manifested themselves in different skin conditions from the following drugs: formaldehyde, phenol preparations, iodine, iodoform, arsenic, corrosive sublimate, chloramine, aloes (vomition, diarrhea) and mercury.

Comments and Conclusions

(1) Some oily preparations should be combined with vaseline in rectal or genital examinations. (2) Rubber gloves should be used in all autopsies. (3) Human surgery dictates that antiseptics should be placed around a wound rather than within it, since any value obtained from antisepsis would be offset by cell damage. However, from a practical standpoint, the veterinarian must still use wound antiseptics for his own and the animals' protection. (4) Though skin disinfection reduces the resistance of the skin, the veterinarian is still forced to use it for the same reason as listed under (3). (5) The use of rubber gloves at all times in practical veterinary manipulations would probably eliminate all veterinary occupational diseases, but it is an ideal that as yet has not been realized.

Dr. E. A. Hewitt, Associate Professor of Physiology and Pharmacology, his daughter, Yvonne, and Russell and Wayne Brown, set out for San Juan, Texas, to visit Mrs. W. H. Brown during Christmas vacation. They only reached Springfield, Mo., because of an automobile accident in which they all miraculously escaped serious injury. Since Dr. Hewitt's car was completely demolished, the party returned to Ames by train.

More Sauerkraut

An item of interest for the parasitologist is one which deals with the anthelmintic values of raw sauerkraut. In Germany, it seems, it is considered an effective remedy against intestinal parasites, especially in children. It is said to be particularly effective in ascarid infestations.

A handful of sauerkraut is used and is eaten after previously fasting in order to secure best results. In many homes children receive raw kraut twice a week as an intestinal cleanser.

PERSONAL

A freshman vet while dozing in a lecture was suddenly awakened when the instructor barked at him, "Mr. Hanna, where is stratified squamous epithelium found?"

The student reared in his seat and answered. "Stratified squamous epithelium is found in your mouth, in your esophagus, in your an......"

"Now don't get personal, Mr. Hanna," interrupted the lecturer.

The Veterinary Student