

The right side of the thorax was scrubbed and disinfected. Thoracentesis was performed using a sterile 5 cc. syringe and a 20 gauge needle. It was hoped that it would be possible to aspirate and determine the character of any exudate which might be present. No exudate was found but some air was aspirated.

The cat began retching soon after the thoracentesis and extreme respiratory distress lead to death in a few minutes.

Post mortem examination revealed a large mass protruding from the wall of the trachea at its bifurcation. This had apparently worked as a valve and had prevented respiration when the cat began breathing harder as a result of the examination. The entire right lung was consolidated and the respiratory tract distal to the neoplastic mass was filled with a mucoid material. There were no significant lesions in the alimentary canal.

Sections from the lungs were examined microscopically. The mass found at the bifurcation of the trachea was an adenoma which had apparently originated from the submucous glands. There was also considerable bone metaplasia.

Robert Glock '61

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Adenocarcinoma of the Ovary in a Toy Terrier. A six year old, female Toy Terrier was admitted to Stange Memorial Clinic on January 3, 1961. The dog had a history of a prolonged estrus prior to admission. It was showing symptoms of anorexia, depression, dehydration and listlessness when it entered the clinic.

Upon examination a hard, movable mass was palpated high on the right side in the abdominal area. A laboratory examination of a blood sample showed a leucocytosis. A radiograph showed an abnormal growth in the abdominal cavity, but was held to be inconclusive for a positive diagnosis. With this information a tentative diagnosis of a tumorous condition of the right ovary was made and surgery was recommended.

The animal was anesthetized using Demoral¹ as a pre-anesthetic and Surital² as the anesthetic. A two inch ventral mid-line incision was made one inch posterior

to the umbilicus. Upon entering the peritoneal cavity 150-175 cc. of fluid escaped. The mass was located by intra-abdominal palpation and brought to the exterior. The mass, identified as the right ovary, was greatly enlarged, (8cm by 5 cm), and appeared lobulated and congested. It appeared that possibly some metastasis had occurred to the uterus so an ovariohysterectomy was performed. Upon completion of surgery 15cc of warm isotonic saline was introduced into the peritoneal cavity to help alleviate dehydration. The peritoneum was closed with chromic catgut and interrupted sutures. A subcutaneous layer of interrupted catgut sutures were placed and the skin was closed with horizontal mattress sutures.

A section of the ovary was sent to the pathology laboratory for histopathological examination.

Post-operative care consisted of penicillin and streptomycin injections twice a day for three days, five percent dextrose with vitamin B complex administered subcutaneously for two days, Vi-Sorbin (Norden) for the three succeeding days, after which the dog was eating well and feeling well.

The report from the pathology laboratory disclosed the tumor to be an adenocarcinoma of the ovary. Another radiograph was taken to check again for evidence of metastasis to other organs. This radiograph showed no positive metastasis, and the dog was discharged.

Ronald Larson '62

1. Demerol, Winthrop.
2. Surital, Parke-Davis.

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Tetanus in a Filly. Tetanus is a highly fatal disease of domestic animals characterized by a wound infection which elaborates a powerful neurotoxin causing tetanic muscle spasms and rigidity.

The etiology of tetanus is *Clostridium tetani*, an anaerobic, gram-positive, slender rod with terminal spores. In order to grow and produce an infection, the organisms must have previous tissue damage. The organism produces two toxins, tetanolysin,

which causes hemolysis of red blood cells, and tetanospasmin, which attacks nervous tissue. The latter toxin is the one responsible for the symptoms of the disease.

The horse is the animal most commonly affected with the disease. The sheep and the pig are also often affected. Cattle and goats are less affected. The infection usually follows injuries or deep wounds such as nail punctures, compound fractures, gunshot wounds, castration, docking or saddle galls. It is also seen following parturition as a result of navel infections or lesions of the uterus. The incubation period may vary from a period of one week to as long as several months.

The symptoms of tetanus are usually first manifested as muscular spasms, especially at the head. The nictitating membrane will protrude over the eyeball with any sudden stimulus. The ears are held erect and the nostrils are dilated. Trismus, spasms of the muscles of mastication, occurs making eating and drinking difficult or impossible. The animal walks with an unsteady, straddling gait due to stiffness of the hind legs. The tail is held out, especially when backing or turning.

As the symptoms become more advanced, constipation occurs, and the urine is retained. The muscular spasms become more severe until the animal assumes a "saw horse" posture. Soon the animal falls with the limbs in a state of tetany and is unable to rise. The temperature, which was normal at first, may rise to 108-110° F. Death, resulting from exhaustion and respiratory paralysis, usually occurs 5-10 days after the onset of symptoms. On post-mortem examination, no characteristic lesions can be found.

Treatment is usually of little value once symptoms are well marked. It usually consists of debriding the wound, injecting tetanus antitoxin and penicillin, administering sedatives or tranquilizers and isolating the animal in quiet, darkened quarters. Tetanus antitoxin will not neutralize any toxin already adsorbed to nerve tissue.

Prophylaxis is achieved by either the injection of tetanus antitoxin, which will supply passive immunity, or the injection of tetanus toxoid, which will induce an active immunity.

A five months old filly was first examined on December 9, 1960. The filly had been exhibiting marked symptoms of tetanus for twenty-four hours or more. The gait was slow and stiffened. When the animals' head was tapped sharply the third eyelid would protrude over the eyeball, and the rest of the body would stiffen in a tetanic spasm with the limbs rigid and extended. The filly could not bend her neck or nurse. Since no foot injuries could be found, it was thought that the location of the infection was either a cut on the top of the right ear or the umbilicus where the organism could have remained dormant.

The cut on the tip of the right ear was debrided and painted with Lugol's solution of iodine. Intramuscular injections of 9,000,000 units of procaine penicillin G and 3,000 units of tetanus antitoxin were given. The filly was isolated with her mother in a dark, quiet stall.

On December 10th no change was noted. The previous treatment was repeated.

On December 11th the procaine penicillin G dosage was reduced to 3,000,000 units. The injection of 3,000 units of tetanus antitoxin was repeated. Little change could be noted compared to the previous days.

On December 12th the filly appeared the same. The penicillin therapy was changed to 1,500,000 units of procaine penicillin G and 1,500,000 units of benzathine penicillin G*. No tetanus antitoxin was given.

On December 13th it was noticed that the filly had nursed for the first time since the onset of symptoms. She was still sensitive to external stimuli, however. One 150 mg. acetphenolisatin tablet** was given to relieve the constipation, which was noted. The same penicillin therapy was repeated.

On December 14th and 15th gradual improvement was noted. The penicillin therapy was ended on the fifteenth.

By December 19th the filly was much improved, but still not completely recovered.

On December 28th the filly was turned outdoors to exercise for the first time since

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Honored at ISU



Dr. Burnell W. Kingery

Dr. B. W. Kingery, head of the Department of Medicine and Surgery, and Director of Clinics, was chosen "Professor of the Year" in the College of Veterinary Medicine in the all-university election on March 15, 1961.

Dr. Kingery was also honored May 4, when he was tapped by Cardinal Key during the opening ceremonies of Veishea, 1961.

TETANUS (Continued from page 157)

the onset of the disease. She moved quite well, but still exhibited some jerkiness in her motions. After about thirty minutes of vigorous exercise, she was returned to her stall.

On December 29th the filly was turned out permanently. Her motions were about normal, and she was considered recovered.

Since the treatment of tetanus after the onset of symptoms is usually unrewarding, attention should be directed toward the prophylaxis of the disease rather than the cure. Treatment begun after the onset of symptoms usually requires a long period of treatment, which often is not successful. Either the use of tetanus antitoxin, any time when exposure possibly has taken place, or the use of tetanus toxoid in troublesome areas is the best solution to the tetanus problem.

Donald Tesdall, '62

* "Longicil" — Fort Dodge Laboratories

** "Purgolettes" — Norden Laboratories, Inc.

REFERENCES

1. Blood, and Henderson, *Veterinary Medicine*. Williams & Wilkins Co., Baltimore, Md., 394-398, 1960.
2. Hagan, W. A., and Bruner, D. W. *The Infectious Diseases of Domestic Animals*, 4th ed. Comstock Pub. Assoc., Ithaca, N.Y., 326-333, 1961.
3. Merchant, I. A., and Packer, R. A. *Veterinary Bacteriology and Virology*, 5th ed. The Iowa State College Press, Ames, Ia. 492-496, 1956.
4. Stein, C. D. *Animal Diseases*, The Yearbook of Agriculture, USDA, 237-239, 1956.

Homecoming 1961

THE IOWA STATE Alumni Homecoming Luncheon will be held in the courtyard of the Veterinary Medicine Quadrangle, Saturday, October 28, 1961. The luncheon will begin at 11:00 a.m. Tickets for the I.S.U.-Kansas St. football game and the homecoming luncheon are available from the homecoming committee.

I.S.U. Mums will be available for the ladies at the door.

Picnic Lunches, each \$1.50 _____
(Check to Jr. A.V.M.A.)

Football Seats, each \$4.00 _____
(Check to Ath. Dept.)

Football Seats, each \$1.00 _____
(Varsity I Men)

Please send requests for tickets to Cordell Schillmoeller, Homecoming Committee Ticket Chairman, Division of Veterinary Medicine, Ames, Iowa.