

1

Histories for Wednesday Slide Conference
2 October 1968

253

Case I - A large subcutaneous swelling was noted over the left thigh and perineum of an adult rhesus. On gross examination the subcutis contained a large aggregate of cysts.

254

Case II - 67R/RA4 - The anterodorsal portion of the right diaphragmatic lobe of lung from a 5-year-old ewe is submitted. She was killed after a protracted illness characterized by dyspnea and cachexia. For the past several years in this range flock of 14,500 sheep, the annual death loss from the condition among mature ewes has been 600-700 head. Deaths are fairly evenly distributed among 19 range bands that comprise the flock.

255

Case III - 1288566 - A subcutaneous nodule removed from the dorsolateral neck of a 3-year-old female poodle. Three similar nodules were removed from the area one week before but were not examined histologically.

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Results of Wednesday Slide Conference
2 October 1968

283
Case I - The subcutaneous swelling over the left thigh of the rhesus was due to many cysts of Multiceps serialis and the associated granulomatous reaction. Multiceps or coenurus have multiple aggregates of several scolices each which remain attached to the wall of the cyst. Cross sections of several scolices were present with their suckers, hooklets, and calcareous bodies evident. When present, calcareous bodies are diagnostic of a cestode; they tend to be more numerous in larval forms and are felt to function in the acid-base balance of the organism.

PAR

29th
Case II - 67R/RA4 - The 5-year-old ewe killed after a protracted illness had chronic progressive pneumonia. According to Dr. Phemister prominent lesions included disseminated, nodular lymphofollicular hyperplasia (peribronchial and perivascular), non-adenomatoid epithelial hyperplasia of terminal bronchioles and alveoli, and thickening of interalveolar septae by mononuclear cell infiltration and fibromuscular hyperplasia. A purulent bronchitis and pneumonia was secondarily super-imposed. The features are analagous to those described in (Icelandic "maedi") During the discussion it was brought out that intracytoplasmic inclusions have been described with maedi.

LUNGS

8285
Case III - 1288566 - The subcutaneous nodule from the dorsolateral neck area of the 3-year-old poodle consisted of numerous granulomas. One year ago the dog was vaccinated with Bar-Rab (Fort Dodge) rabies vaccine. This is an inactivated vaccine which has an oil base adjuvant. A frozen section revealed a large amount of fat in the lesion. The large vacuoles represent larger collections of the oil.

W. B. ...
(Rabies)
V. ...

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P.S. Unlike last year, all regular contributors will not be asked to return the microslides. It is felt that the material contributed during the year makes ideal study sets for those who want to use them this way.

(2)

Results of Wednesday Slide Conference
9 October 1968

286
Case I - X3763 - The tissue from the 2-year-old Chesapeake Bay retriever was a portion of prolapsed vagina. The mucosa was ulcerated in some places; the wall was congested and edematous. The prolapse had not been present very long; the dog was in estrus at the time. The affected portion was resected. We do not often examine this type of lesion histologically.

287
Case II - K-1 - The 8-year-old terrier dog had a history of chronic renal disease. Lesions included medial sclerosis (Mönckeberg's) of the arteries and thrombosis of arterioles in the myocardium associated with focal myocarditis, hyaline degeneration, and fibrous proliferation (myocardial infarct). The splenic arteries were also sclerosed.

Although a BUN was not done, the kidneys were severely affected with chronic interstitial nephritis. Dr. Ward felt the medial calcification and fibrosis were due to a hyperparathyroidism secondary to chronic renal disease. The pulmonary arteries contained large recent thrombi that were so large that they appeared grossly similar to caseous nodules. The parathyroids were not submitted to Dr. Ward.

288
Case III - 6721 - The tissue obtained from the 3-year-old burro was thought to be a meningioma by the contributor, although he was not here today to defend his diagnosis. Most felt the structure was normal pineal gland. Dr. Panciera mentioned that during removal of the cranium that the pineal may be removed attached to the tentorium cerebelli. It has been mistaken for tumors before, according to Lt. Col. Cook.

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Histories for Wednesday Slide Conference
16 October 1968

✓ 219
Case I - 812-6847 - An 8-year-old female Irish setter had a history of recurrent convulsions and periods of depression. The sections are taken from a mass in the abdominal cavity.

/ 10
Case II - 2263-2 - An 11-year-old male cocker spaniel had hematuria.

/ 1
Case III - 19759 - Lymph node from a mature bovine.

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Results of Wednesday Slide Conference
16 October 1968

Case I - 812-6847 - The 8-year-old female Irish setter with a history of recurrent convulsions and periods of depression had an islet cell carcinoma of the pancreas and mesenteric lymph node (our section), as well as the hepatic nodes and one microscopic tumor embolus in the lung. The tumor was functional.

Four months prior to examination by CPT Bostrom, she began to wander, as if in a stupor, and bumped into familiar objects. The periods of stupor progressed in intensity and duration. One month after initial signs, tonic-clonic convulsions occurred which lasted one-half hour. These convulsions occurred 3-4 times a week and lasted for 5-10 minutes. Between convulsions, she had periods of stupor. Primidone was administered by another veterinarian; the number of convulsions decreased but the periods of depression became more frequent and lasted longer. The owner noted no relationship between convulsions, time of eating or time of day.

The dog was examined by the contributor during one of the periods of depression. Clinically, there was a symmetrical depression of reflexes. The blood glucose was 5 mgm.%. The next day, after fasting for 12 hours, a glucose tolerance test was done. Ten grams of 50% dextrose was given (0.5 G/Kg) and blood was taken at 10, 20, 40, 60, and 120 post-injection.

Results: 10 minutes - 147 mgm. Glucose/100 ml. blood
20 minutes - 97 mgm.%
40 minutes - 73 mgm.%
60 minutes - 35 mgm.% (Normal Range 60-89)
120 minutes - 36 mgm.% (Normal Range 67-90)

A laparotomy was done at which time a lobulated mass 5x6 cm. was seen in the body of the pancreas. It was firm and appeared to be well encapsulated and compressing surrounding pancreatic tissue. Many small nodules could be felt along the duodenum and in the mesentery. The dog was euthanized. No other tumors were found; a complete postmortem exam was done.

CPT Bostrom demonstrated that the islet cells comprising the tumor were of the Beta type because the granules were PAS negative, were purple with Gomori's aldehyde fuchsin and orange-brown with the Masson trichrome stain.

Case II - 2263-2 - The 11-year-old male cocker spaniel with hematuria had a prostatic carcinoma and hydroureter (our section), as well as hydronephro

He was first seen on 9 July 1965 with history of occasional hematuria for 1 year duration. BUN 130 mgm.%. A diagnosis of prostatic cyst and hyperplasia was made and he was castrated.

On 19 August 1968, dog returned for anorexia and depression of 10 days duration. The BUN was 180 mgm.%, Creatinine 4.9 mgm.%, Urinalysis - color - light yellow and cloudy, Spec. Grav. 1.017, pH 5.01, protein 1+, many WBC's and RBC's, epithelial and hyaline casts present as well as many bacteria. He was then put on chloromycetin therapy.

On 20 August, Urinalysis - color - light yellow and hazy, Spec. Grav. 1.012, pH 5.0, Protein 1+, many RBC's and WBC's, casts and few bacteria. On 21 August, he was still anorectic, BUN 116.5 and Creatinine 4.05 mgm.%. He would urinate small amounts very frequently. On 23 August, micturation became more difficult and occasional red stringy material was voided in the urine. On rectal palpation, the prostate felt normal, but a radiograph revealed abnormal density in the neck of the urinary bladder and prostate.

During laparotomy, both kidneys were found to be enlarged; the ureters were dilated. The prostate and bladder were a normal color but they could not be separated. The posterior two-thirds of the bladder wall was thickened and white and continuous with the prostate. One adjacent iliac node contained a metastasis.

Case III - 19759 - The parotid lymph node from a mature bovine contained a green anisotropic pigment felt to be a dye used for ear tattooing. Dr. Carey said they began seeing this at Michigan State University shortly after they changed to a green tattoo ink. Grossly, portions of the node are emerald green. The pigment is usually inert; the reactive hyperplasia present in our slide was felt to be from some other cause.

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P.S. The tumor from the burro contributed by LTC Trevino (6721 - 9 Oct. 68) was a normal pineal gland. They are apparently large enough in burros to be mistaken for tumors and in removal of the cranium, may remain attached to the tentorium cerebelli.

4

Histories for Wednesday Slide Conference
23 October 1968

292
Case I - D-485 - Tissue removed from a 1 1/2-year-old female beagle dog at the time of an ovariohysterectomy.

293
Case II - 68299-4 - One of a group of turkeys hatched on 3 July 1968. Experimental procedure started on 9 July and poult killed on 1 August 1968. Morphologic diagnosis and possible etiology.

294
Case III - 41-188 - Tissues from a foal which died at 2-months of age. Grossly the spleen was enlarged, the liver was enlarged and friable and there was moderate icterus. This farm has had a serious problem with this disease for several years. They raise thoroughbreds which are raced at many tracks throughout the country.

295
Case IV - Bonus - 18595 - A 10-week-old rabbit purchased from a commercial supplier.

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Results of Wednesday Conference
23 October 1968

249
Case I - D-485 - The tissue removed from the 1-1/2-year-old female beagle were bilateral ovotestes; each "ovary" was present on our slide. She was first seen at 3 months of age with an enlarged clitoris. She would urinate both by squatting and lifting a leg. During the spay, the ovaries were noted to be enlarged; the oviducts and uterus appeared normal. The clitoris was removed and it contained an os penis. In March of this year, she had been in heat and attracted males for 2 weeks.

Case II - 68299-4 - The turkey poult hatched on 3 July 1968 was given .5 ppm aflatoxin B, continuously in the feed from 9 July 1968 until being killed on 1 August 1968. People were confused as to the morphological diagnosis. Generally there were basophilic periportal hepatic cord cells arranged in an acinar pattern around a central "duct" and centrally the hepatocysts were more eosinophilic (degenerating). The nuclei of these central hepatocytes had enlarged nucleoli. Some eosinophilic cord cells were rounded up, individualized and obviously necrotic. If Dr. Cysewski (NADL) the contributor, does not agree with my interpretation, he can inform me so I can pass it on to you.

Ref.: Newberne, P. M., et al.: Hepatomas in Rats and Hepatorenal Injury in Ducklings Fed Peanut Meal or *Aspergillus flavus* Extract. *Path. Vet.* 1: 105-132 (1964).

Newberne, P. M.: Carcinogenicity of Aflatoxin Contaminated Peanut Meals in Mycotoxins in Foodstuffs. Ed. by G. N. Wogan, Mass. Inst. Tech. Press, 1965, pp. 187-208.

Case III - 41-188 - The foal that died at 2-months of age had equine infectious anemia. There was focal centrilobular necrosis of the liver, periportal chronic cell infiltrate, and sinusoidal RE hyperplasia. There were numerous histiocytes (Kupffer cells) laden with hemosiderin. The kidney had a chronic interstitial cell infiltrate between tubules and around some arteries. Dr. Busey also felt there was a glomerulitis and some glomerular adhesions to Bowman's capsule; several present at the conference felt the mesangium was thickened and the glomeruli were enlarged. Hemosiderin was also present in the glomeruli. According to Dr. Busey the lung was edematous and had a mild chronic interstitial infiltrate; hemosiderin was again present. The lymph nodes had an RE cell hyperplasia, loss of mature lymphocytes and a marked plasma cell infiltrate.

Over the past several years, 22 mares have died on the farm. Five of them were posted; blood from one of these was injected into a normal horse which subsequently came down with infectious anemia.

Ref.: Ishii, S.: Equine Infectious Anemia or Swamp Fever. Advances in Veterinary Science, Vol. 8, Academic Press, New York and London, 1963.

Ditchfield, J.: Equine Infectious Anemia - A Review of the Disease and Diagnostic Tests. Canadian Vet. Jour., Vol. 8, No. 12, Dec. 1967, pp. 273-278.

Case IV - 18595 - The 10-week-old rabbit had hepatic coccidiosis due to *Eimeria steidae* in the healing phase. In one portal area was a granulomatous response due to the oosysts. Apparently these are frequently seen in the healing phases. Bile duct hyperplasia and developing gametocytes were also present.

Ref.: Smetana, Hans: Coccidiosis of the Liver in Rabbits. III. Experimental Study of the Histogenesis of Coccidiosis of the Liver. Archives of Pathology, Vol. 15, No. 2, 1933, pp. 516-536.

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Histories for Wednesday Slide Conference
30 October 1968

3

296
Case I - AN-66-66 - From a common domestic animal.

Case II - UA-ANP - A common cause of equine indigestion.

297
Case III - 68-958 - A 3-year-old female dog of mixed type whelped and delivered a normal litter. Twelve weeks later she was hospitalized because of persistent bleeding through the vulva.

298
Case IV - Bonus - 1265926 - An equine biopsy specimen.

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Results of Wednesday Slide Conference

30 October 1968

²¹¹
Case I - AN-66-66 The lung from a 13-year-old Egyptian mongrel dog (a common domestic animal) contained multiple metastases of a bile duct carcinoma. MAJ Hildebrandt showed pictures of a liver containing numerous white, demarcated, irregular nodules up to 1 cm. in diameter. Microscopically, the transition between normal and neoplastic bile duct epithelium was evident. Many thought the neoplasm was primary in the lung; some called it metastatic carcinoma. Many vessels contained tumor emboli. MAJ Hildebrandt felt the lung was firm, grossly, but did not see any gross lesions. It had also metastasized to the capsule of the adrenal.

²¹²
Case II - UA-ANP - The common cause of equine indigestion was Habronema megastoma. The lesion was a marked granulomatous inflammation of the glandular stomach. According to the contributor, Dr. Reed, the ova within the nematodes are characteristic of Habronema sp. Not all sections had gastric mucosa. A few felt that it was a Strongylus vulgaris aneurysm but it was brought out that these would be 3rd. stage larvae, not adults. H. muscae and H. microstoma do not produce this marked a lesion.

²¹³
Case III - 68-958 - The 3-year-old female dog with persistent placental tissue according to Dr. Ribelin, the contributor. Hemorrhage, endometrial cysts, maternal placenta, foci of mineral and adherent necrotic debris were evident. The foamy cells of the endometrium are evidence of progesterone influence. Grossly, the uterus contained a single irregularly shaped 2 cm. white, fleshy mass. Two people felt it resembled a hydatidiform mole. Most felt it should be termed subinvolution of the placenta.
Ref.: Beck, A. M. and McEntee, K.: Subinvolution of Placental Sites in a Postpartum Bitch. Cornell Vet., vol. 56, no. 2, April 1966, 269-277.

²¹⁴
Case IV - Bonus - 1265926 - The equine biopsy specimen was a granulomatous dermatitis due to larvae of Habronema sp. The lesion had been present for 8 weeks on the left hind leg before being biopsied. At least one larva was present in the sections. LTC Garner mentioned that Phycomycetes can produce a very similar lesion in the skin and should be looked for when larvae cannot be demonstrated in "typical" lesions. MAJ De Paoli noted that he has seen a similar lesion, but not so extensive, in horses sensitized in Tabanid flies.

Ref.: Bridges, Charles H., et al.: Phycomycosis in Horses Caused by Entomophthora coronata. JAVMA, vol. 140, no. 7, 673-677, 1962.

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HISTORIES FOR WEDNESDAY SLIDE CONFERENCE

6 November 1968

200 D+B

Case I - 18218 Growth removed from a laboratory animal which had been inoculated with experimental material.

Ref: Berman, L. D. Comparative morphologic study of the virus-induced solid tumors of Syrian hamsters.
J. Nat. Canc. Inst. 39 (5): 847-901, 1967.

201

Case II - 1288097 A 2-year-old male Chihuahua was presented with an enlarged eye. Give morphologic diagnoses. What would account for the enlarged eye seen clinically?

309

Case III - 1239882 From an adult sentry dog, Arras, stationed in Turkey. He was ill for about 4 months as his condition did not respond to "intensive" therapy.

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Results of Wednesday Slide Conference

6 November 1968

300 A+B

Case I - 18218 - The subcutaneous tumor removed from the Syrian hamster was an undifferentiated neoplasm due to human type 12 adenovirus. It was induced by inoculating .05 ml. Hui strain human adenovirus type 12 subcutaneously. The titer was approximately 10^8 pfu/ml. The tumor was removed 2 months later.

Apparently the solid tumors are locally induced at the site of injection in some hamsters when inoculated shortly after birth and can grow to tremendous size. The cell of origin is not known, hence the definitive diagnosis, undifferentiated neoplasm:

Ref.: Spjut, H. J., et al: Neoplasms in hamsters induced by adenovirus type 12. Arch. Path., 83: 199-203, 1967.

301
Case II - 1288097 - The 2-year-old male Chihuahua had an enlarged eye due to secondary glaucoma. Morphologically, there was hyphema, anterior and posterior synechia, iris bombe, closure of the filtration angle, detached retina, reactive pigmented epithelium of the retina, curv. ciliary membrane formation (posterior to the lens) and focal chronic keratitis. No one could identify the finely granular circular, anisotropic bodies trapped in the fibrin of the vitreous body. The history does not indicate an etiology but Capt. Schmidt felt it was probably trauma. The clinician submitted the case to AFIP thinking it was an intraocular tumor.

302
Case III - 1239882 - Arras, the sentry dog in Turkey, had a multifocal granulomatous hepatitis due to an acid-fast bacillus (TB?). Bacilli were also demonstrated in larger granulomas in the kidney and within ulcerative granulomas in the skin.

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(A)

Histories for Wednesday Slide Conference

13 November 1968

Case I - ²⁰³#46 - From a newborn foal with marked thyroid enlargement. She was weak at birth as well as being affected with contracture of the flexor tendons. At 6 days of age, she had not improved and so was euthanized. Thyroid enlargement was found in 3 to 50% of thoroughbred foals born in 1967 on 3 farms. Some yearling and adult horses on these farms were also affected.

Case II - ^{67R}67R/PA2 - From the anterodorsal portion of the right diaphragmatic lobe of lung of a 5-year-old ewe, killed after a protracted illness characterized by respiratory dyspnea and cachexia. For the past several years the annual death loss from this condition in mature ewes has been 600-700 head.

Case III - ^{238C}238C - A 2-year-old Osborne-Mendel rat with a headache.

Case IV - ³⁸¹381 Bonus - 381 - From a 9-month-old dog.

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Results of Wednesday Conference

13 November 1968

303
Case I - #46 - The newborn foal with thyroid enlargement had colloid goiter due to excessive dietary iodide ingestion by the mare. According to Dr. Lindsey, there was marked variation in follicle size, many of which were distended with pale staining colloid. Occasional giant follicles were present. Generally, the follicular epithelium was flattened to low cuboidal but finger-like projections were evident.

Through rather refined techniques, Dr. Lindsey et al. demonstrated elevated plasma TSH level in 4 goitrous foals at birth and in 2 of their dams. TSH was not detectable in plasma of 3 other goitrous foals or in plasma from normal foals and their dams. Using I_{131} techniques on excised thyroid, retarded organification was evident by the increase of monoiodotyrosine/diiodotyrosine ratio and the low iodothyronine values. One interpretation of this finding is that excessive iodide inhibits thyroid synthesis by blocking conversion of monoiodotyrosine to diiodotyrosine.

From the cases studied as little as 50 mgm of iodide per day consumed by mares during pregnancy can cause congenital goiter in some foals. On a farm where iodide intake of mares was less than 7 mgm/day, goiter did not occur. The goiter is reversible by reducing iodide intake.

This description of Drs.' Lindsey and Baker's paper is brief but the complete paper will be published in the Scientific Proceeding of AVMA meeting in Boston. (Our slide #46 is from foal S.G.).

Case II - 67R/PA2 - The diagnosis on the section of lung from the 5-year-old ewe killed after a long illness characterized by respiratory dyspnea and cachexia was pulmonary adenomatosis. Discrete disseminated nodular foci of adenomatoid epithelial hyperplasia were present apparently arising from alveolar epithelium and/or epithelium of distal bronchioles. Dr. Phemister suggested that we compare this slide with that of Case II - 67R/RA4 (2 October 68) in which the diagnosis was progressive pneumonia. Both sheep were from the same flock and were affected with similar clinical signs during the same season. Dr. Stuart Young contributed the case.

305
Case III - 238C - The 1-1/2-year-old Osborne-Mendel rat had a mixed glial tumor and internal hydrocephalus. At 2 weeks of age, it had received 400R whole body irradiation. It was a control, one of 750 used on another experiment when it developed the CNS signs of a "twister".

Microscopically, there were cell types and patterns characteristic of oligodendroglia (dense small nucleus and clear cytoplasm), medullablastoma (rosettes), ependymoma (palisading of cells around vascular spaces) and giant cells that might be interpreted as nerve cells.

Case IV - Bonus - ³⁰⁶381 - The 9-month-old dog with interstitial pneumonitis and purulent bronchopneumonia had numerous intranuclear eosinophilic inclusions in desquamated alveolar lining cells due to virus of canine infectious hepatitis. The dog was experimentally infected with the agent IP and died 4 days later. The liver contained multiple disseminated necrotic foci associated with characteristic hepatic inclusion bodies; the wall of the gallbladder was edematous. According to MAJ Hildebrandt, this finding of inclusion bodies in respiratory epithelium has been reported in Jubb & Kennedy and are present in adenovirus infections in man.

Ref.: Jubb & Kennedy. Pathology of Domestic Animals, vol. 2, pg. 203, 1963, Academic Press.

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Histories for Wednesday Slide Conference

20 November 1968

- Case I - ³⁰⁷X3574 - Tissue from an 8-year-old spayed female cat. Give diagnosis and symptoms.
- Case II - ³⁰⁸2308-7 - A 2-1/2-year-old female foxhound was presented with abdominal distention and fever. She died 2 days later.
- Case III - ³⁰⁹S-227-68 - Encrusted lip and nose lesions developed in a herd of sheep after recent additions to the flock.
- Case IV - ³¹⁰Bonus - 1246585 - A 9-1/2-year-old dog was spayed for pyometra. During surgery, a tumor was noted at the ventral tip of the spleen and it was removed, also.

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RESULTS OF WEDNESDAY SLIDE CONFERENCE
20 November 1968

Case I - X3574 The 8-year-old spayed female cat had a chronic proliferative pleuritis of unknown etiology. The cat had a chronic course "pneumonia" and responded temporarily to anti-biotics. Dr. Ward presented the case and all agreed that the differentials included infectious feline peritonitis, pyothorax, and chronic pleuritis due to Nocardia sp. Routine cultures taken at necropsy were negative. Perhaps it was infectious feline peritonitis of the pleural cavity. Lung ✓

Case II - 2308-7 The 2-1/2 year old female fox hound had amyloidosis of splenic follicles (sago-spleen) associated with chronic peritonitis due to Nocardia sp. Colonies of organisms (sulfur granules) were present in only some sections, but Dr. Squire submitted a section of omentum containing one. Dog Spleen

This is the third case of peritonitis due to Nocardia sp. Dr. Squire has seen from the same hunt club; he feels it may result from puncture wounds received while in the field.

Case III - S:227-68 The lip and nose lesions which developed in the flock of sheep were due to contagious ecthyma or orf virus. Microscopically there was a proliferative, necrotic dermatitis (of the lip). Some swore they saw intracytoplasmic inclusion bodies, but most were more honest. Maj. Pershing (New Mexico) submitted a photo showing the raised, encrusted lesions around the commissures of the lips and on the nose.

Discussion revolved around differential diagnoses. The gross picture was most helpful. Lip and leg ulceration was the prime differential; there is more extensive face involvement and the ulcers are crateriform.

Case IV - 1246585 The tumor in the spleen of the 9-1/2 year old dog with pyometra was merely focal nodular hyperplasia. The lymphoid hyperplasia was limited to this nodule; however, the hematopoiesis was generalized. Siderotic nodules were present in other sections.

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9

Histories for Wednesday Conference

4 December 1968

311

Case I - 68185-3 - Brain from a calf which died on post-inoculation day 7 following experimental inoculation of material from an animal with a severe central nervous system disease.

312

Case II - 67-895 - 44D - Induced subcutaneous tumor in a golden Syrian hamster.

313

Case III - 20135 - From a mature male bovine.

Case IV - Bonus - Breast muscle from a Mearn's quail (Cyrtonyx montezamae).

314

Small white spots were noted grossly. Characterize reaction.

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Results of Wednesday Slide Conference

4 December 1968

Case I - ²¹¹ 68185-3 - The ^{bovine} brain from the calf which died on post-inoculation day 7 had an encephalitis (minimal meningitis) due to **pseudorabies virus**. Inoculation was by scarification of the tongue. Some persons present saw a few intranuclear eosinophilic irregular inclusion bodies about the size of the nucleolus of the neurons in which they were present. The neurons appeared normal otherwise.

According to Dr. Cheville (NADL) the severity of the lesion is not typical of field cases of pseudorabies and this may be due to the route of inoculation. Virus was cultured from this calf and produced typical changes in cell culture and rabbits.

MAJ De Paoli mentioned that in an outbreak of pseudorabies in feeder pigs in California that inclusion bodies were most often found in those animals sacrificed not in those which were allowed to die. Perhaps this was due to loss of nuclei in affected cells in these animals.

Ref.: Hurst, E. W.: Studies on Pseudorabies (Infectious Bulbar Paralysis, Mad Itch). I. Histology of the Disease with Notes on Symptomatology. J. Exp. Med., 415-433, 1933.

Case II - ²¹² 67-895-44D - The induced ^{skin} subcutaneous in the Syrian hamster was a **fibrosarcoma due to SV 40 virus**. According to Dr. Valerio (Biometrics Research Labs.) the tumors get very large (2-3 times size of hamster); metastases are not common but she has seen them in the lung. The induced neoplasms are of 2 types; one is the very myxomatous appearing tumor as in our case; the other is composed of dense collagen. The tumor arises about 4 months after inoculation.

Ref.: See history Case I - 18218, 6 November 1968.

Case III - ²¹³ 20135 - The skeletal ^{bovine} muscle from the rump of a mature bull contained diffuse **Zenker's necrosis** characterized by hyaline and granular degeneration of muscle fibers, histiocytic infiltration and fibroblastic proliferation. Dr. Carey (MID) showed a Von Kossa stained slide; there was a marked amount of phosphates (mineral) in most skeletal muscle fibers present. He felt the degeneration may have been nutritional in origin.

Maj. Robinson mentioned that several plants in the Southwest have been incriminated in causing similar lesions in skeletal muscle. Two of these plants are coffee senna (Cassia sp.) and the fruit of the coyotillo plant.

Ref.: Dewan, M. L. et al. Toxic Myodegeneration in Goats Produced by Feeding Mature Fruits from the Coyotillo Plant (Karwinskia humboldtiana). Amer. J. Path., Vol. 46, No. 2, Feb. 1965, 215-226.

Henson, J. B. et al. Myodegeneration in Cattle Grazing Cassia Species. JAVMA, Vol. 147, No. 2, 1962, 142.

Case III ³¹⁴ - Bonus - The breast muscle from the Mearn's quail (Cyrtonyx montezumae) had multifocal granulomas due to the larval nematode Physaloptera sp. The adult nematode is normally the parasite of dogs, foxes, coyotes, wolves, cats, monkeys, man (Africa), badgers, skunks and raccoons. The intermediate hosts are various arthropods such as the cockroach, cricket and flour beetle.

Dr. Reed (U. of Ariz.) said the lesions grossly resembled Sarcocystis but he teased coiled nematodes from the lesion under the dissecting microscope. He felt that the lesion in this aberrant host was one of a foreign body reaction with giant cell formation whereas larval migration in the definitive host would be characterized by macrophages, eosinophils, neutrophils, and lymphocytes. Giant cell formation would be uncommon; a scar would form after passage of the larva.

Ref.: Dixon, J. M. and Robertson, J. R. Aberrant Larvae of Physaloptera sp. in a Quail (Colinus virginianus). Avian Dis., Feb. 1967, 41-44.

Ackert, J. E. Physaloptera felidis N. sp., A Nematode of the Cat. Trans. Amer. Microscopic Soc., 55, April 1936, 250-254.

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(10)

Histories for Wednesday Slide Conference
11 December 1968

³¹⁵
Case I - 3424 - From unweaned, several day old Holstein-Friesian calves which died with signs of pneumonia and protracted diarrhea. The owner regularly buys such dairy calves at farms, livestock sales, etc., and fattens them for sale as beef or veal. He has had recurrent outbreaks of pneumonia on his farm.

³¹⁶
Case II - 923-6824 - A rhesus was submitted for euthanasia and necropsy for a lesion which did not respond to treatment while in quarantine. In spite of the lesion, the animal was bright, alert, well nourished and had the typical "loving" personality characteristic of this species.

³¹⁷
Case III - 1295792 - Incidental finding in a slaughtered animal.

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Your next case is due to be presented on 15 Jan 68.
I have not received your case for 13 Nov 68 - CSP 25.

RESULTS OF WEDNESDAY CONFERENCE

11 December 1968

Case I - 3424 ^{HM 315} The several day old Holstein-Friesian calves had bronchiolar hyperplasia, atelectasis and interstitial pneumonia due to Parainfluenza Virus III. Some of the hyperplastic bronchial epithelium formed syncytial giant cells. In these and other epithelial cells were occasional intranuclear eosinophilic irregular inclusions; the cytoplasmic inclusions were seen more frequently. Virus isolation has been done in previous cases but was not undertaken here.

Some discussion revolved around the atelectatic portions, a few felt that perhaps thin areas had never been aerated. It was mentioned that the absence of vernix squames in the lung is legal evidence in human medicine that inflation of alveoli had occurred.

If you have any strong feelings one way or the other let us know. Dr. Ribelin, the contributor, included a reference. It is an excellent review of causes of pneumonia in calves.

Ref.: Omar, A. R. The Aetiology and Pathology of Pneumonia in Calves, The Veterinary Bulletin, Vol. 36, No. 5, May 1966, pp. 259-273.

Case II - 923-6824 ³¹⁶ The rhesus with the loving personality had a granulomatous dermatitis due to Mucor sp. (cultured) (Phycomycosis). The non-septate hyphae, irregular branching and marked differences in diameters of the hyphae are characteristic of the Phycomycetes.

Capt. Martin showed a photograph of the rhesus with extensive ulceration dorsal to the right eye. The granulomatous reaction involved the frontal sinus (but not brain) as well as bilateral involvement of the mandibular lymph nodes and parotid salivary glands. After the post mortem a serum glucose was done; result 500 mgm % glucose. (Normal 148 mgm %) Chances are the monkey was diabetic and this may have precipitated the extensive infection as Phycomycetes are common opportunists in human diabetes. Microscopically Capt. Martin saw no glomerular or pancreatic islet changes.

In the discussion it was mentioned that the granulomatous response seen here is not always present in Phycomycosis. In some cases there may be extensive invasion of the organisms into blood vessels; thrombi are produced.

Case III - 1295792 ^{317 A+B} The slaughtered animal was a pig which had an extensive, proliferative, necrotizing valvulitis of the left AV valve due to Erysipelothrix insidiosa. A Brown and Brenn will be included in the next set of slides to demonstrate the large number of Gram + small rod shaped bacteria. The

case was submitted to AFIP by Dr. Migaki.

CLARK S. PATTON
CAPT, VC, USAR
Veterinary Pathology Division

P. S. The next conference is on 8 January 1969. Capt. Charles Montgomery, VC, USA, will be taking over the responsibility of running the conferences beginning in January.

(11)

Histories for Wednesday Slide Conference

8 January 1968

²¹⁸
Case I - 68-350 - One of three ewes from a flock; this ewe was recumbant, blind, slobbering from the mouth and had running movements. The other two ewes were blind and circled to the right. The flock was being fed on hay, silage, and pasture. All three had lambed within the past two weeks.

²¹⁹
Case II - 1290760 - A 2-year-old male sentry dog, Bones, was unable to stand or sit, held his head to the right and preferred to lie on the right side. Rectal temperature was 103.4°F. Strabismus and anisocoria were also noted on clinical examination. Perforation of the left ear drum and inflammation of the left ear canal were noted being secondary to ear mites. The right ear drum was clouded. Six days after the onset of signs paddling and chomping movements were observed; the dog had deteriorated rapidly and so was euthanized.

³²⁰ AMH
Case III - An incidental finding in a *Picapica hudsonia* (black-billed magpie). In addition, a few microgranulomas containing acid-fast bacilli were present in the spleen.

A# 19080 } ISAMR = NL
B# 19064-5 }

CHARLES A. MONTGOMERY, JR.
CPT, VC, USA
Veterinary Pathology Division

Results of Wednesday Conference
8 January 1969

318
Case I - 68-350 - The ewe with CNS signs had cerebral listeriosis. Other lesions observed in this animal were mild non-suppurative cholangitis, fatty degeneration of the liver, mild catarrhal enteritis, and widespread passive congestion and local hemorrhages. Listeria monocytogenes was isolated from the brain stem.

In the discussion it was pointed out that this disease occurs frequently during winter months in animals on corn or grass silage. In one outbreak in Michigan, 22 animals had CNS lesions, but no abortions occurred. Some ewes gave birth to normal lambs.

319
Case II - 1290760 - The two-year-old sentry dog was a recent arrival to Lackland AFB. A diagnosis of distemper was made from the tissues submitted. The interesting lesion in this case was the presence of large intranuclear inclusions in neurons. Some neurons had intracytoplasmic inclusions. Intranuclear glial inclusions were also numerous.

Ref.: Jubb and Kennedy. Pathology of Domestic Animals.

Nieberle and Cohrs. Textbook of the Special Pathological Anatomy of Domestic Animals (Pergamon Press - 1967).

320 A-B
Case III - This case consisted of selected tissues from a male, black-billed magpie, Picapica hudsonia, which was shot in the field 15 hours before necropsy. The spleen contained several tuberculous microgranulomas. The lung had an occasional microfilaria associated with blood vessels. Within the myocardium of the heart and at its edge under the epicardium there is an encysted nematode. In other sections there are subepicardial granulomas; some contain an occasional giant cell; in others are also tracts containing sections of nematodes. Microfilaria were found in the blood in some sections. The encysted nematode was identified by Dr. Hibler at Colorado State University as Splendidofilaria picacarolina. The others could be of a different species.

Ref.: Hibler, C. P. New Species of Onchocercidae (Nematoda: Filarioidea) From Pica pica hudsonia (Sabine - 1823), J. Parasitol. 50: 667-74 (5).

CHARLES A. MONTGOMERY, JR.
CPT, VC
Veterinary Pathology Division

(17)

Histories for Wednesday Slide Conference
15 January 1969

- Case I - ³²⁴68-316 - A 2-year-old female mink on experiment was found dead. At necropsy the lungs were diffusely pale pink in color and failed to collapse upon opening the thoracic cavity. The liver was tannish-yellow in color. The spleen was enlarged two to three times normal size. The kidneys were mottled in appearance with numerous small, white, pinpoint spots, especially noticeable on the cortical surface. The stomach contained brown coagulated blood. Multiple small erosions were present in the gastric mucosa.
- Case II - ³²⁵42-487 - From a 6-year-old female Beagle dog.
- Case III - ³²⁶68-P554 - Tissue from a 6-year-old Shetland pony mare that rapidly became depressed and anorectic. Within 24 hours marked icterus developed and she became prostrate and died. Clinical observations during the day of illness included temperature of 100°F, pulse of 76, red urine, and elevated SGOT and direct Vanden Bergh reactions.
- Bonus - ³²⁷1756752 - Tissues from a "sick" sand boa in the Baltimore zoo.

CHARLES A. MONTGOMERY, JR.
CPT, VC, USA
Veterinary Pathology Division

RESULTS OF WEDNESDAY SLIDE CONFERENCE

15 January 1969

Case I - ³²⁴68-316 The two-year-old female mink that died on experiment had Aleutian disease. In the liver the bile ducts and portal areas were markedly dilated. Some contained an homogenous material thought to be mucopolysaccharide. Many plasma cells were infiltrated in portal areas. There were foci of hyalinized material which was relatively acellular, located adjacent to the portal areas. The contributor thought this to be amyloid. Kidney lesions consisted of shrunken glomeruli that were hypercellular and the presence of an eosinophilic material in the Bowman's space, dilated distal tubules, and plasma cell infiltration in the interstitial tissue throughout. A moderate vasculitis of the arterioles in the perirenal connective tissue was noted.

Case II - ³²⁵42-487 The lung section of the six-year-old female Beagle dog contained a metastatic adenocarcinoma. The primary lesion was in the ovary.

Case III - ³²⁶68-P554 After the necropsy of the six-year-old Shetland pony mare, further questioning of the owner revealed that exactly 60 days prior to the fatal illness the pony had a lip laceration repaired and was given tetanus antitoxin. Significant necropsy findings included generalized icterus, large quantities of brown fluid in all serous cavities and a liver which appeared yellow, slightly indurated and uniformly reticulated.

Dominant histologic findings in the liver were centrilobular loss of hepatocytes with stromal collapse; disarray and vacuolization of surviving hepatic cells, large multinucleated giant hepatocytes in a zonal distribution in the peripheral portions of the lobules, and an inflammatory infiltrate consisting of lymphocytes, plasma cells, and neutrophils. In the discussion that followed, the majority felt that the history and lesions were compatible with serum hepatitis or Theiler's disease. The differential diagnosis included Pyrrolizidine alkaloid toxicity.

Reference: Hjerpe, C. A.: Serum Hepatitis in the Horse,
J.A.V.M.A., 144, (1964): 734-740.

397
BONES - 1750750 The "sick" Sand has had serpentine tuberculosis. The characteristic microscopic lesion consisted of central necrotic areas surrounded by large epithelioid cells. Calcification and the presence of giant cells is not characteristic of microbacterial infections in serpentine hosts. This organism is pathogenic for snakes, frogs, certain lizards and goldfish, but is nonpathogenic for rabbits, guinea pigs, chickens and pigeons.

Reference: Aronson, J. D., 1927, Spontaneous Tuberculosis in
Snakes, J. of Infect. Diseases, Vol. 44, Pg. 215.

CPT Charles Montgomery

HISTORIES FOR WEDNESDAY SLIDE CONFERENCE

13

22 January 1969

Case I - ³²¹20005 Tissue from a fryer roaster turkey, 15-18 weeks of age.

Case II - ³⁹²2377 Tissue from a 15-year-old pony with chronic diarrhea. The contents of the large bowel and cecum were watery and green and the mucosa was irregularly deep red. The anterior mesenteric artery contained chronic parasitic aneurysm and thrombosis and associated inflammation.

Case III - ³⁹³
775-6846 Enucleated eye from an 8-year-old male Siamese cat with unilateral buphthalmos.

CHARLES A. MONTGOMERY, Jr.
CAPT, VC
Veterinary Pathology Division

Results of Wednesday Slide Conference
22 January 1969

321
Case I - 20005 - The roaster turkey had a granulomatous hepatitis with a center core of giant cells surrounded by a zone of histiocytes and an outer zone of lymphocytes. The differential diagnosis included tuberculosis, aspergillosis, histomoniasis, coligranuloma and visceral lymphomatosis. This lesion was caused by Catenabacterium sp., an aerobic gram positive bacillus, that is non-spore forming and non-protolytic. Experimental studies have revealed that when the organism is given intravenously it will cause liver lesions, but when given orally, the liver lesions are depended upon destruction of the integrity of the gut wall by another bacterial agent, such as Streptococcus fecalis. Gomori's methenamine silver stain is the stain of choice to demonstrate the causative organism. The organism has also been isolated from rats and man.
Ref.: Moore, W.E.C. and Gross, W. B.: Liver Granulomas of Turkeys - Causative Agents and Mechanism of Infection. Avian Diseases, Vol. XII, No. 3, August 1968.

329
Case II - 2377 - In the 15-year-old pony with chronic diarrhea, the only significant finding was in the arteries in the muscularis of the intestine. The round subintimal bodies in vessels were PAS positive, AMP positive and contained calcium and iron in later stages. They may be found in blood vessels everywhere, but particularly in the intestinal tract and mesenteric vasculature and they are found in most horses. The lesion has been related to Strongyle migration although this has not been reported.
Ref.: Marcus, L. C. and Ross, J. N., Jr.: Microscopic Lesions in the Hearts of Aged Horses and Mules. Path. vet. 4: 162-185 (1967).

323
Case III - 775-6846 - The majority of the people at Wednesday conference thought the tumor in the 8-year-old male Siamese cat was a malignant melanoma. Dr. Zimmerman, Ophthalmic Pathology Branch, called the tumor an adenocarcinoma of the ciliary body. The contributor, Dr. Huckins, Edgewood Arsenal, will run an acid mucopolysaccharide stain to differentiate between the two neoplasms and report to us in the near future. In addition to the tumor, other lesions noted were a ruptured cornea with regeneration of the corneal epithelium at the site of the rupture, posterior synechia, ruptured lens, and degeneration of the retina. The Siamese cat had an exophthalmus for 8 months and the cornea was ruptured one week before surgery. It has been 9 months since surgery and the cat is clinically normal and shows no signs of metastasis.

Malignant melanoma - new ans
CHARLES A. MONTGOMERY, JR.
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Histories for Wednesday Conference
29 January 1969

Case I - ³²⁸PC-7 - Tissues from an 8-year-old black Labrador retriever spayed female with a history of chronic diarrhea for 4 months. The animal did not respond to therapy and was euthanized. Upon gross examination, the intestine was brown in color.

Case II - ³²⁹68172-6 - Tissue from a young female white-tailed deer (Odocoileus virginianus) killed 8 days after inoculation intravenously with an infectious agent. Another deer inoculated at the same time died suddenly during the previous night.

Case III - ³³⁰68-560 - There was a flaccid paralysis of both hind legs of this female guinea pig breeder. The animal had a normal appetite however, and was able to drag herself to her food.

Bonus - ³³¹2140 - An unexpected lesion in a clinically healthy pig said to be on a normal ration. There is not a record of experimental use of the animal.

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Veterinary Pathology Division

RESULTS OF WEDNESDAY SLIDE CONFERENCE

29 January 1969

328 ✓

Case I - PC-7 The Labrador Retriever that did not respond to enzyme therapy had severe pancreatic atrophy with moderate chronic pancreatitis. The intestinal tract was essentially normal. A brown granular intracytoplasmic pigment, leiomyometaplasts, was present in the smooth muscle layers of the duodenum and attributed to the brownish discoloration of the intestine seen grossly. Leiomyometaplasia has been experimentally reproduced in Vitamin E deficient rats.

REF: Thompson, Samuel W. and Murchison, Thomas E. (1958), A Histochemical Study of Five Cases of Leiomyometaplasts in Dogs., Cornell Vet., Vol. 48.

Schnitzer, Bertram and Loesel, Lawrence S. (1968), Brown Bowel, The Am. J. of Clinical Path., Vol. 50, No. 4.

329

Case II - 68172-6 The dissecting hemorrhage in the aorta of the white-tailed deer is typical of the widespread hemorrhages found in deer dying of Epizootic hemorrhagic disease of deer (EHD/D). Experimentally infected white-tailed deer typically show a sudden onset of clinical signs, including anorexia, loss of fear of man, and weakness, about 7 days following inoculation, and die 8 to 36 hours after signs occur. The spectacular hemorrhages seen at necropsy result from a derangement of the blood clotting mechanism, along with degeneration of blood vessel walls.

The similarity of this disease and Bluetongue in deer was discussed. Both diseases have similar incubation periods, clinical signs, and gross lesions. The tongues of deer with EHD/D are not as swollen and hemorrhagic as those seen with Bluetongue. Hemorrhages of other organs are usually more severe with EHD/D. Both diseases are caused by RNA, cubical, acid sensitive, ether resistant, Arboviruses. EHD/D virus is smaller, however, and the role of an arthropod in the epizootiology of EHD/D has not been established. The host range of EHD/D is different from BTV in that it does not produce disease in sheep or cattle and cannot be propagated in chicken embryos.

REF: Vissingh, R. A., Trainer, D. O., and Easterday, B. C. (1968), Experimental Bluetongue Disease in White-tailed Deer, Can. J. Comp. Med. Vet. Sci. 32: 382-387.

330

Case III - 68-560 The female guinea pig had malignant lymphoma. Gross examination revealed generalized lymphadenopathy, a swollen yellow liver, and splenomegaly. All the major organs were severely infiltrated with lymphocytes ie, lymph nodes, lung, mesentery, etc. The posterior paralysis was due to massive infiltration of lymphocytes in the obturator nerves. A virus has been incriminated as the etiologic agent.

REF: Ediger, R. D., and Rabstein, M. M. (1968), Spontaneous Leukemia in A Hartley Strain Guinea Pig, J.A.V.M.A. Vol. 153, No. 7.

Opler, S. R. (1967), Pathology of Canine Viral Leukemia., American Journal of Pathology 51: 1135-1151.

BONUS - 2140 The massive hepatic necrosis in the pig was thought by the majority of people at the slide conference to be characteristic of the lesion of Hepatitis Dietetica because of the unusual pattern of involvement with normal lobules adjacent to affected ones. Cossypol poisoning, Cresol poisoning, and Cocklebur poisoning were considered in the differential diagnosis.

NOTE: Lymph node sections from Case 2140 (Guinea pig) are enclosed.

CHARLES A. MONTGOMERY, JR.
CPT, VC
Veterinary Pathology Division

Histories for Wednesday Slide Conference
5 February 1969

- Case I - ³³²2142 - Canine skin mass surgically removed from an area anterior to the right ilium and to the right of the median line. The mass had been present for two months, but had grown rapidly the last month.
- Case II - ³³³68-959 - A 6-year-old dog, sex and breed unknown; was admitted to a Wisconsin veterinary hospital with a complaint of a freely movable growth beneath the skin of the left mid-thorax. The growth was said to have developed rapidly the last two months. Surgery revealed it to be attached to the dermis but was easily dissected therefrom. It was 3.5x2.0 cm and cystic in nature. Upon incision, the contents appeared cheesy. The mass is submitted for your diagnosis.
- Case III - ³³⁴13,155 - Tissue from aborted porcine feti. It was the sow's first litter and she aborted before term.

CHARLES A. MONTGOMERY, JR.
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Veterinary Pathology Division

Results of Wednesday Slide Conference
5 February 1969

- Case I - ³³²2142 - The canine skin mass was a mast cell tumor. In the discussion of this case, several people stated they thought this lesion was atypical for mastocytoma. The paucity of eosinophils and the large size of the mast cells left some doubt in some people's mind whether this in fact was a neoplasm or a chronic granulomatous reaction. The majority made a diagnosis of mastocytoma based on the extensive collagen necrosis and presence of granules in the cytoplasm of the mast cells. Luna and Giemsa stained sections were presented to demonstrate the metachromatic intracytoplasmic granules in the large mast cells.
- Ref.: Houtendorf, G. H. and Nielsen, S. W.: Pathologic Report of Twenty-Nine Necropsies on Dogs with Mastocytoma. Path. vet. 5: 102-121 (1968).
- Orkin, Milton: Mastocytosis in Animals. Arch. of Derma. Vol. 96 (Oct.), 1967.
- Case II - ³³³68-959 - The skin mass from the 6-year-old dog was a calcifying epithelioma. Distinguishing characteristic of this tumor discussed were the presence of viable basal cells adjacent to "shadow cells"; a fibrous tissue capsule; calcification; ossification and foreign body giant-cell reaction with or without cholesterol clefts.
- Ref.: Houtendorf, G. H. and Nielsen, S. W.: Pathologic Report of Twenty-Nine Necropsies on Dogs with Mastocytoma. Arch. of Derma. Vol. 77 (Mar.), 1958.
- Kuang-Yu, Ch'in: Calcified Epithelioma of the Skin. Amer. J. Path. Vol. 9, 1933.
- Case III - ³³⁴43,155 - The sow who aborted her first litter had leptospirosis. In the kidney there was hemorrhage in the cortex and at the cortico-medullary junction plus a few necrotic glomerular tufts deep in the cortex. One liver section revealed diffuse fatty change and disseminated foci of active hematopoietic tissue. Spirochetes could be demonstrated in the silver stained slide. They were more numerous in tubules of the kidney. Serum from the sow reacted weakly to Difco Pools 1 and 2 leptospira plate test antigens (Pool 1 contains L. icterohaemorrhagica, canicola, and ballum and Pool 2 contains L. autumnalis, pomona and sejroe) and agglutinated strongly at a 1:1 screening dilution with L. pomona antigen.

Note: The Veterinary Pathology Division is moving to the AFIP Annex located at the Bureau of Standards building at the corner of Connecticut Avenue and Van Ness Street, N. W., therefore, the slide conference scheduled for 12 February 1969 will be cancelled. We will have the remaining conferences at our new location. A map of the grounds is enclosed. Those out-of-town participants may take the Connecticut Avenue exit off the Beltway. Van Ness Street is approximately 5-6 blocks

north of the National Zoological Park. Parking may be a problem, so come early, if possible, to allow the maximum length of time for orienting yourself with our new location.

Revised Schedule - Wednesday Slide Conference

February - 19, 26

March - 5, 12, 19 (24-28 March - AFIP Annual Lectures)

April - 2, 16, 23, 30 (week off for Easter)

May - 7, 14, 21, 28

June - 4

CHARLES A. MONTGOMERY, JR.
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Veterinary Pathology Division

Histories for Wednesday Slide Conference
12 February 1969

- Case I - ^{335 A+B} 68P853 - Sections from the brain of a 6-month-old beef-type heifer which was inoculated intravenously with an infectious agent. The animal became slightly incoordinated then "went down" and died 5 days post-inoculation.
- Case II - ³³⁶ 18219 - Growth removed from a laboratory animal which had been inoculated with experimental material.
- Case III - ³³⁷ 1:13469 - Section from one of two skin nodules surgically removed from a domestic short-haired cat.
- Bonus - ³³⁸ 791116 - Tissue from a vole.

CHARLES A. MONTGOMERY, JR.
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Results of Wednesday Slide Conference
19 February 1969

17

394 335A+B
Case I - 68P853 - The 6-month-old beef heifer was inoculated with a young culture of a gram-negative CO₂-dependent, bacterial organism recovered from a spontaneous case of bovine "thrombo-embolic meningoencephalitis". The inflammatory response in the meninges consisted primarily of a mononuclear cell infiltrate, whereas the focal necrotic lesions in the cerebrum and cerebellum contained predominantly polymorphonuclear leukocytes. Vasculitis was not a prominent finding in this case.

Ref.: Panciera, R. J., Dahlgren, R. R., and Rinker, H. B.:
Observations on Septicemia of Cattle Caused by a Haemophilus-like Organism. Path vet 5: 212-226 (1968).

342 336
Case II - 18219 - The growth removed from a laboratory animal was a basic mesenchymal spindle-cell sarcoma in a hamster inoculated subcutaneously with .05 ml of SV₄₀ virus which titered approximately 10⁷ pfu/ml. The tumor was removed 14 days later. Viruses that cause solid tumors when inoculated into newborn hamsters are: Polyoma virus; Simian Virus 40; Bovine papilloma virus; Harvey and Moloney murine sarcoma viruses (MSV); Adenoviruses (5 human types, 7 Simian types, 1 avian and 1 bovine); and the Schmidt-Ruppin (SR), Harris, Prague, and Bryan strains of Rous sarcoma virus (RSV).

Ref.: Berman, L. D.: Comparative Morphologic Study of the Virus-Induced Solid Tumors of Syrian hamsters. J Nat Cancer Inst 39 (5): 847-901 (1967).

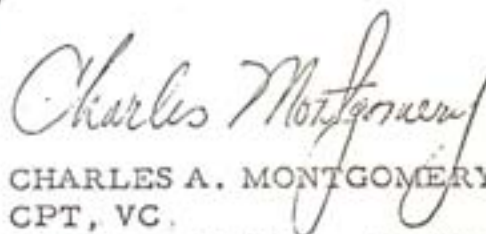
327
Case III - 1113469 - The histopathological diagnosis on the skin section from the domestic short-haired cat, was granulomatous dermatitis. This is a case of non-tuberculous granuloma (cat leprosy) caused by an acid-fast bacillus morphologically similar to Mycobacterium lepraemurium. The disease has been reported from New Zealand and Australia. One suspect case has been reported in North America. The skin nodules are seen on the limbs, neck, back, lips, and abdomen, and range in size from 1-3.5 cm. Attempts to grow the causative organism on Lowenstein's medium has been negative. Histologically, there are sheets of epithelioid cells with an intermingling of leukocytes and lymphocytes involving the dermis in all cases and extending for a variable distance into the subcutaneous tissues. Giant cells are seen but not commonly. Caseation was reported in 7 of 9 cases reported from New Zealand. Unlike M. tuberculosis, the organisms show a striking tendency to be aggregated in closely packed groups within the cytoplasm of the epithelioid cells. This is similar to lesions seen with leprosy, rat leprosy, and lesions associated with M. ulcerans. The organism does not cause generalized systemic disease. Epithelioid cells containing the acid-fast bacilli have been demonstrated in lymph nodes draining the site of skin lesions. Serial transfer in rats of material from cats caused lesions typical of those seen in rat leprosy. Attempts to transmit the disease back to cats from rat material was not successful.

Ref.: Brown, L. R., et al: A Non-Tuberculous Granuloma in Cats.
New Zealand Vet. J., Vol. 10, pp. 7-9, Feb. 1962.

Lawrence, W. E. and Wickham, Nancy: Cat Leprosy:
Infection by a Bacillus Resembling Mycobacterium lepraemurium.
Australian Veterinary J., Vol. 39, Oct. 1963.

Bonus - ³³⁸79116 - The vole's liver contained multiple hydatid cysts of
Echinococcus multilocularis. In nature, the adult cestodes are found
in foxes. The larvae develop in various species of microtine rodents.

NOTE: The time of the Wednesday slide conference has been moved up
to 2:30 p.m. (1430 hours).



CHARLES A. MONTGOMERY, JR.
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Veterinary Pathology Division

Histories for Wednesday Slide Conference
26 February 1969

³⁴²
Case I - 6606 - Sac containing a watery, chocolate fluid, and lying
342 anterior to the obturator foramen in an adult female rhesus monkey.

³⁴³
Case II - 3573 - Liver from a 4-month-old female kitten with a
343 distended abdomen. Give diagnosis and possible symptoms.

³⁴⁴
Case III - D50F29 & D50N64 - Tissues from two 3½-year-old dogs
fed strontium-90 for 1½ years after birth. Approximately 10%
344 of the animals on this experiment have died from this condition
each year.

CHARLES A. MONTGOMERY, JR.
CPT, VC
Veterinary Pathology Division

TABLE
VC
Veterinary Pathology Division

Results of Wednesday Slide Conference
26 February 1969

- 342
Case I - 6606 - The contributor's diagnosis in the female rhesus monkey was internal and external endometriosis. Other lesions noted at necropsy were adhesions at the ileocecal valve and rectal occlusion. In the discussion that followed, several people felt that there were involutionary changes in the uterus compatible with previous pregnancy.
Ref.: Kluver, H. and Bartelmez, G. W.: Endometriosis in a rhesus monkey (1951) Surgery G&O, 92: 650-660.
- 343
Case II - 3573 - The liver from the 4-month-old female kitten contained multiple adenomas. The characteristic features of this lesion are the presence of fairly normal appearing hepatocytes that are not arranged in classical liver architecture. There are no hepatic cords or true sinusoids. Nodules are void of biliary elements and no central veins are present. Occasional pseudocentral veins appear but they often form rows and are not evenly spaced apart like you would expect to see in the classic lobule. Masson's trichrome stain differentiates the true central veins from other vascular elements. In most cases, the animal does not present clinical signs but has a palpable abdominal mass. There may be elevated BSP and alkaline phosphatase levels.
- 344
Case III - D50F29 and D50N64 - The two dogs exposed to oral strontium-90 had myeloproliferative disease. The liver was characterized by centrilobular necrosis and massive infiltration of myeloid cells ranging from blast forms to cells of intermediate maturity. This same cellular proliferation is present in lymph nodes and spleen, along with megakaryocytes and plasma cells. Dogs that died of this disease had transient variable WBC counts (3,000-45,000) with a shift to the left, anemia and thrombocytopenia. Other lesions were hypercellularity of marrow, splenomegaly, mild enlargement of lymph nodes and decreased marrow space of long bones. Histologically, the marrow showed an increased M:E ratio, left shift, abnormal blast forms, decreased reduction in erythroid precursors, and occasional mild fibrosis. The disease process appears to represent a continuum of progressive changes in development of granulocytic leukemia.
Ref.: Goldman, M. et al.: Myeloproliferative Disorders in SR-90 Burdened Beagles. 1968 Annual Report Radiobiology Laboratory, Univ. of California, Davis, pp. 72-74.

CHARLES A. MONTGOMERY, JR.
CPT, VC
Veterinary Pathology Division

Histories for Wednesday Slide Conference
5 March 1969

Case I - ³⁴⁵1258977 - Tissue from a 12-year-old great Dane with a history of progressive pelvic limb weakness and incoordination. Necropsy revealed 3000 cc of amber fluid in the abdominal cavity.

Case II - ³⁴⁶1813-2 - Tissue from a 2-week-old Saint Bernard with a history of depression, hypothermia, crying and a yellow diarrhea for several days prior to death.

Case III - ³⁴⁷3821 - Tissue from an aged thoroughbred horse.

347 A - Original tumor in stomach
B - Secondary in liver

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Veterinary Pathology Division

Results of Wednesday Slide Conference
5 March 1969

345

Case I - 1258977 - The liver from the 12-year-old great Dane had postnecrotic or nodular cirrhosis. Tissues submitted consisted primarily of multiple irregular encapsulated nodules composed primarily of pale staining hepatocytes. Bile ducts and blood vessels were often present in the central portion of these nodules in association with neutrophils, histocytes, and lymphocytes. Between the nodules was a fibrous network which contained portal triads, proliferating bile ducts, widely dilated lymphatics and sinusoids and numerous acute, and chronic inflammatory cells. Many macrophages in this network contained hemosiderin.

346

Case II - 1813-2 - The cause of death of the 2-week-old Saint Bernard was canine herpesvirus. Focal necrosis of alveolar walls with fibrinous exudation is a rather constant finding with this disease. Several people saw intranuclear inclusion bodies in alveolar macrophages adjacent to areas of necrosis. Other lesions consistent with the disease were also present in this animal; viz, focal necrosis and hemorrhage of the liver, kidney, spleen, etc., with intranuclear inclusion bodies in the liver.

Ref.: Carmichael, L. E., Squire, R. A., Krook, L.: Clinical and Pathologic Features of a Fatal Viral Disease of New-born Pups. *Am. J. Vet. Res.*, 26: 803-814, 1965.
Wright, N. G. and Cornwell, H.J.C.: Experimental Herpes Virus Infection in Young Puppies. *Res. in Vet. Sci.*, Vol. 9, No. 4, July 1968.

347 A+B

Case III - 3821 - The liver from the aged thoroughbred horse contained a metastatic squamous cell carcinoma. The primary neoplasm was a solitary nodule in the stomach.

CHARLES A. MONTGOMERY, JR.
CPT, VC
Veterinary Pathology Division

(20)

Histories for Wednesday Slide Conference
12 March 1969

- 348
Case I - 68-106 - Tissue from a male dog that was purchased from a licensed dealer. The dog was found dead in her cage two days later.
- 349
Case II - 69-D-563 - Tissue from a 9-year-old male cat with acute illness, persistent fever, dehydration, and terminal respiratory distress.
- 350
Case III - 6880-3 - Kidney from a runt 100-pound pig with a history of slow weight gains. At the time of necropsy, the pig was febrile, severely anemic and comatose.

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Note: Enclosed with slides for this week is the primary lesion from case III (3821) from the 5 March 1969 conference.

Results of Wednesday Slide Conference
12 March 1969

348
Case I - 68-106 - The architecture of the mesenteric lymph node from this male dog was disrupted by a severe proliferation of reticulo-endothelial cells. There was relative depletion of small lymphocytes. Large blastoid cells with round nuclei and abundant cytoplasm contained several small, blue, somewhat pleomorphic bodies best illustrated with Giemsa stains. These were the Rickettsial elementary bodies of "Salmon Poisoning". Other significant findings in this case were acute hepatic degeneration, and acute renal tubular nephrosis. In the discussion that followed, the differential diagnoses mentioned were Histoplasmosis, Ehrlichiosis, and Visceral Leishmaniasis.

REF.: Cordy, D. R. and Gorham, J. R.: The Pathology and Etiology of Salmon Disease in the Dog and Fox. Amer. J. Path. (1950), Vol. 26, No. 4, pp. 617-637.

349
Case II - 69-D-563 - The 9-year-old male cat had toxoplasmosis. The morphologic diagnosis was interstitial pneumonia. There was marked proliferation of the alveolar epithelium.

350
Case III - 6880-3 - The runt pig died of chronic hog cholera. The characteristic kidney lesions were glomerulonephritis with marked necrotizing vasculitis.

REF.: Shettle, N. F. and Mengeling, W. L.: The Pathogenesis of Chronic Hog Cholera (Swine Fever). Histologic, Immunofluorescent, and Electron Microscopic Studies. Lab. Invest., 20 (1969): In press.

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Historics for Wednesday Slide Conference
19 March 1969

21

- 351
Case I - 68-1336 - Eyelid of a male nutria from Louisiana.
- 352
Case II - 21217 - Specimen from a 10-year-old cow presented for slaughter.
- 353
Case III - 68-646F5 - Tissue from a 1½-year-old male rhesus monkey found comatose in it's cage. The animal had made a complete recovery from a minor bout of dysentery one month previously and had been clinically normal and in good flesh until the present sudden illness.

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Results of Wednesday Slide Conference
19 March 1969

351

- Case I - 68-1336 - The morphologic diagnosis in the nutria was ulcerative dermatitis caused by Rhinosporidium seeberi. Histologically, the surface epithelium was disrupted containing hemorrhage, cell necrosis, bacteria and tissue debris with a polymorphonuclear infiltrate. Adjacent to the epithelium were double contour walled spherical organisms of varying sizes. The large spherules, sporangia, contained many small endospores which on higher power contained eosinophilic granules. The walls and endospores stain positive with Gridley fungus, PAS, GMS and Mayer's mucicarmine.
- Ref.: Maddy, K. T.: Epidemiology and Ecology of Deep Mycoses of Man and Animals. Arch. Derm., Vol. 96, Oct. 1967.
Satyanarayana, C.: Rhinosporidiosis: With a Record of 225 Cases. ACTA Otolaryng, 51: 348-366, 1966.

352

- Case II - 21217 - The 10-year-old cow had a papillary adenocarcinoma in the wall of the gallbladder. The section examined contained a section of liver with the metastatic neoplasm and a portion of adrenal gland with moderate fibrotic change. This neoplasm is more common in younger animals (3-6 years) and occurs primarily in males.
- Ref.: Anderson, W. A., Monlux, A. W., and Davis, C. L.:
Epithelial Tumors of the bovine gallbladder. A Report of 18 Cases. Amer. J. Vet. Res., 19: 58-65, 1958.

353

- Case III - 68-646F5 - The morphologic diagnosis in the 1½-year-old rhesus monkey was pseudomembranous, necrotic enteritis, caused by Candidiasis. The mycelial phase of growth is the invasive stage. This condition frequently occurs following antibiotic therapy with terramycin, chloromycetin, penicillin, or dihydrostreptomycin. This organism also produces ulcerative glossitis and esophagitis in rhesus monkeys.
- Ref.: Seelig, M. S.: Mechanisms by Which Antibiotics Increase the Incidence and Severity of Candidiasis and Alter Immunological Defenses. Bact. Reviews, Vol. 30, 1966.
Kozinn, P. J. and Taschejian, Claire L.: Enteric Candidiasis: Diagnosis and Clinical Considerations. Pediatrics, 30: 71-85, 1962.
Mills, J. H. L. and Hirth, R. S.: Systemic Candidiasis in Calves on Prolonged Antibiotic Therapy. JAVMA, 150: 862-870, 1967.

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Histories for Wednesday Slide Conference
2 April 1969

27

354
Case I - 100-844 - Eye from a 7-year-old German shepherd. The condition had been present for over 1 year prior to euthanasia. The condition was treated by the subconjunctival injection of triamcinolone acetonide without success.

355
Case II - 68P883 - Tissue from a 4-year-old Hereford cow, that dropped in sudden death, when the herd was moved for pregnancy testing. Two other cows died at the same time and six additional cows developed signs of heavy breathing with an expiratory grunt. The affected animals had temperatures of about 105°F.

356
Case III - 41-989 - Incidental finding in a rhesus monkey at necropsy.

357
Bonus - X3778 - Tissue from a 3-month-old Chesapeake Bay retriever.
Give morphologic diagnosis, possible clinical signs, and etiology.

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RESULTS OF WEDNESDAY SLIDE CONFERENCE

2 April 1969

354
Case I 100-844

Eye from a 7-year old German shepherd was affected with lipid keratopathy. The entire cornea of both eyes had a severe lipid degeneration of the anterior half of the substantia propria. Fat was demonstrated in large foamy cells and extracellular by use of the ORO stain. Clefts morphologically similar to cholesterol clefts were seen throughout the lesion. The lipid degeneration was accompanied by a severe granulomatous response. This condition is considered to result from a vascularization of the cornea followed by lipid degeneration and granulomatous response. Dr. L. F. Rubin of the University of Pennsylvania School of Veterinary Medicine has stated this degeneration is invariably followed by pannus. A similar condition can be experimentally produced in rabbits by raising blood cholesterol to abnormal limits and traumatizing the cornea. This dog had a blood cholesterol of 1040 mg., however the significance of high blood cholesterol in the pathogenesis of this lesion has not been proven in the canine.

REF: Cogan, D.G., and Kuwabara, T.: Lipid Keratopathy and Atheroma, *Circulation* 18: 519-525 Oct. 1958.

Cogan, D.G., and Kuwabara, T.: Ocular Changes in Experimental Hypercholesteremia, *Arch. of Ophthal.* 61: 219-225 1955.

355
Case II 68-P883

A 4-year old Hereford cow affected with atypical interstitial pneumonia. Microscopic lesions consisted of interstitial edema, emphysema, and a cellular infiltrate predominantly eosinophils. Alveolar septae were congested and many alveolar lining cells were cuboidal in shape (fetalization). Septal cells (macrophages) eosinophils and fibrin were present in many alveoli. Additional history revealed the cattle had been on a 3rd cutting alfalfa pasture until October 5th at which time they were placed on brome-fescue. Ten days later they were removed for pregnancy testing and sudden deaths occurred. A veterinarian performed field autopsies and found diffuse interstitial emphysema. A diagnosis of atypical interstitial pneumonia was made on histopathologic examination of tissues from one of the cows.

356
Case III 41-989

Nematodes in the gastric mucosa were identified as Nochtia nocti. These parasites have many small spinous processes on their cuticle which evoke response resulting in the development of gastric polyps. These polyps have been considered neoplastic by some but no report of metastasis has been reported. The lesion consisted of a projection of well differentiated, hyperplastic mucosa and muscularis mucosa into the stomach lumen. One comment was made

that on gross examination the small nematodes could be stimulated to crawl out of the mucosa by placing the polyp in warm saline.

REF: Bonne and Sandground, Nochtia nocti in Monkeys.
Am. J. Cancer, Vol. 37, No. 2, October, 1959.

357
BONUS x3778

Small intestine taken above an intestinal obstruction which was caused by the puppy eating a child's woolen glove. The morphologic diagnosis was ulcerative enteritis.

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Histories for Wednesday Slide Conference
16 April 1969

223

358

Case I - 2284 - Tissues from a 6-year-old dog from Texas with a chronic
wasting disease. Clinical and postmortem diagnosis by the

359

clinician was lymphosarcoma.

Case II - 451-6842 - Tissue from a 6-week-old beagle that died suddenly.

Case III - 12692B-1 - Muscle from a market age beef breed heifer.

360

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Results of Wednesday Slide Conference
16 April 1969

- Case I - 2284⁵⁸ - The 6-year-old dog from Texas had histoplasmosis. The morphologic diagnosis was focal disseminated granulomatous hepatitis. There was severe fatty change in the liver and moderate nephrosis with hyalin droplet degeneration in the kidney tubules.
- Case II - 451-6842⁵⁹ - The 6-week-old beagle died of infectious canine hepatitis. There was a marked vasculitis in the brain with intranuclear eosinophilic inclusion bodies in the endothelium. This animal had kidney, RE cells in the spleen as well as the liver. One interesting finding in this animal was the presence of a bilateral corneal opacity at the time of death. The Arthus phenomenon induced corneal opacity with I.C.H. is usually associated with those animals that survive the disease.
- Case III - 12692B-1³⁶ - Tissue was from the gluteal area of a beef breed heifer that was custom slaughtered at the request of a feedlot operator. The meat inspector noted discoloration in the muscle and the escape of yellow fluid from the area of discoloration. Under a Wood's lamp, the fluid and affected muscle exhibited strong yellow fluorescence. The morphologic diagnosis was necrotizing myositis and hemorrhage due to a recent injection of oxytetracycline.

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Histories for Wednesday Slide Conference
23 April 1969

24

361 Case I - 68-589F4 - Tissues from a 1-year-old female rhesus monkey that was found moribund in her cage.

362 Case II - 59 - Tissue from one of several laboratory animals that died. These animals showed relentless weight loss and reluctance to move over a 3-4 week period before death.

363 Case III - 2563-5 - There were multiple pearl-gray nodules up to one centimeter in diameter throughout the mesentery of this slaughtered beef cow.

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Results of Wednesday Slice Conference
23 April 1969

361 Case I - 68-589F4 - The morphologic diagnosis in this case was granulomatous, cavernous, pneumonia of mycotic origin. Lung mites were also present in the lung section. Cultures were not taken on this case. The organism stained weakly with PAS and minimally with GMS and Gridley stains. The organism stained positively with Von Kossa stain. Branching hyphal forms could be seen. The organism was also present in macrophages with foamy cytoplasm and granular structures within. It was pointed out that when the oxygen tension is optimum in the lung, yeast forms can revert back to mycelial forms in monkeys and man.

362 Case II - 59 - This case was from a guinea pig colony that was suspected to have scurvy. The clinical impression that animals were paraplegic was correlated with occurrence of spontaneous fractures either at the distal epiphysis of the femur or proximal epiphysis of the tibia. Investigation of the food source revealed that the order of feed was approximately one year old. Histopathological lesions in the slide submitted were not typical of hypovitaminosis-C. There was a non-healing fracture present; the cortical bone appeared "washed out", and there was a relative absence of osteoid. The marrow was hypercellular. A consult was made with the Orthopedic Pathology Branch, AFIP. The following reasons were given for this case not being scurvy: (1) osteoid in minimal amounts was present at the fracture site and in other areas as well; (2) there was no periosteal hemorrhage, even near the fracture site; (3) fractures in scurvy are usually through the growth plate; this one is not; (4) hypercellularity of the marrow was not considered significant. This is a characteristic of infant scurvy in humans, however; (5) fibrous marrow was absent; (6) the epiphyseal cartilage was not considered significantly distorted. Lesions present were hard to explain. Several people commented that this case may be atypical because the colony may have been receiving good quality diet intermittently along with the bad lot of feed.

363 Case III - 2563-5 - The mesenteric nodules in the slaughtered beef cow were considered by the majority to contain a metastatic adenocarcinoma. Metastases were found histologically in the liver, spleen, kidneys, lungs, and the sublumbar lymph nodes. Although the primary was not found, it was the opinion of the contributor and several of the participants, that this lesion was characteristic of metastatic adenocarcinoma from the uterus. Several people favored foreign-body granuloma. There were multinucleated giant cells and a birefringent, finely granular material present in the reactive stroma.

Ref.: Monlux, A. W. et al: Adenocarcinoma of the Uterus of the
Cow - Differentiation of its Pulmonary Metastases from
Primary Lung Tumors. Amer. J. Vet. Res., Vol. 17,
No. 62, Jan. 1956, pp. 45-73.

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25

Histories for Wednesday Slide Conference
30 April 1969

- 364
Case I - 637-68A57 - Incidental finding at necropsy in a Hartley-albino guinea pig.
- 365
Case II - 68-373-1 - Tissue from a mouse that died 36 hours following inoculation.
- 366
Case III - 45-533 - Ovary from an adult ICR Swiss mouse.

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Results of Wednesday Slide Conference
30 April 1969

Lung

364

Case I - 637-68A57 - The morphologic diagnosis in the Hartley-albino guinea pig was suppurative pneumonia. The specific diagnosis was pulmonary botryomycosis caused by Pseudomonas aeruginosa. The organism could be seen on gram stained or Giemsa stained slides as clusters of gram negative rods surrounded by a pink amorphous wall, some of which had radiating clubs. The term botryomycosis is thought by most to be specific for staphylococcal induced disease. It was pointed out by the contributor that in his review of the literature he found this was not so, but this term can be used with any bacteria as long as it has the characteristic reaction, i.e., organisms forming a core with radiating, corona around them. In some slides a plant foreign-body was present in the bronchioles with a reaction around them. Cocci were also noted arranged in packets beneath the pleura.

Ref.: Winslow, D. J. Botryomycosis. Amer. J. Path., 1959, 153-158.

Winslow, D. J. and Steen, F. G. Considerations in the Histologic Diagnosis of Mycetoma. Amer. J. Clin. Path., 1964, 164-169.

365

Case II - 68-373-1 - The liver from this mouse had dilated portal vessels engorged with blood, minimal cloudy swelling of hepatocytes, and the vasculature contained abundant, large bacilli with blunt ends and a prominent capsule. This mouse had been inoculated with anthrax bacilli. Tyzzer's disease was considered in the differential diagnosis, but this bacillus is PAS, or GMS positive; fails to stain on H&E sections and is usually associated with areas of hepatic necrosis.

366

Case III - This ovarian neoplasm was a granulosa-theca cell tumor.

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Histories for Wednesday Slide Conference
7 May 1969

Case I - ²¹⁷2046 - Incidental finding at necropsy in a rhesus monkey.

Case II - ³⁶⁹13545 - Tissues from a female dog, 11-years-old, that was attacked by her fellow canines, after which she lost her appetite and started vomiting. A physical examination and several diagnostic procedures were performed, including an exploratory laparotomy, but the dog died.

Case III - ²¹⁷68-3606 - Lesion of the oral cavity located "near the tongue", in a 10-month-old Besenji.

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Results of Wednesday Slide Conference
7 May 1969

367 Case I - 2046 - This rhesus monkey had generalized amyloidosis. Other organs affected were the kidneys, liver, adrenals, spleen, and pancreas. There was no history of previous medication. Lung

368 Case II - 13545 - The 11-year-old dog in this case was the victim of a clinical diagnostic accident. The primary lesion was in the lung where the morphologic diagnosis was inhalation pneumonia caused by aspiration of barium sulfate. The large birefringent crystals were readily visible in the alveoli and in macrophages. There was a minimal inflammatory response with fibrin and polymorphonuclear leukocytes associated with the foreign body. Several participants noted one round structure with double refractile walls and containing structures that resembled endospores. Other lesions present were, active, chronic pancreatitis, fat necrosis of the pancreatic fat and peritonitis. Lung

369 Case III - 68-3606 - The morphologic diagnosis in this 10-month-old Besenji was calcinosis circumscripta. The section revealed normal buccal epithelium under which there were cystic areas filled with deposits of an eosinophilic to deeply basophilic granular material. The cysts were lined by epithelioid and giant cells and surrounded by a fibrous stroma. mouth

Ref.:

Howell, J. McC. and Ishmael, J. Calcinosis Circumscripta in the Dog with Particular Reference to Lingual Lesions. Pathologia Veterinaria, 5: 75-83 (1968).

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Histories for Wednesday Slide Conference
14 May 1969

27

370
Case I - 25 - Tissue from a 10-year-old male sentry dog that was treated for internal parasites and became ill and died 5 days later.

371
Case II - 69-24 - Tissue removed from a 2½-year-old, female rhesus monkey exhibiting marked abdominal distension. She had been inoculated as a newborn with a combination of virus and carcinogen.

372
Case III - 68P961 - The section is from an 11-year-old cocker-mix bitch; at the time of hospital admission, the owner reported that the animal had had several "heart attacks" during the previous 3 months. During the few days the animal was hospitalized, grand mal convulsions were observed. Abnormal EEG recordings were obtained over the frontal lobes and the CSF pressure was elevated. A diagnosis of "brain tumor" was made and the animal was euthanized.

373
Note: Enclosure with this week's slides is the primary gallbladder adenocarcinoma that goes with the metastatic liver lesion given in this March 1969 conference. Case 21217, 10-year-old cow presented for slide later.

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Results of Wednesday Slide Conference
14 May 1969

- 370
Case I - 25 - The morphologic diagnosis on the 10-year-old male sentry dog was toxic nephrosis possibly due to arsenic toxicity from Caparsolate treatment for D. immitis. Microscopic findings were severe tubular degeneration and necrosis; focal, chronic glomerular sclerosis compatible with senile change; deposition of calcium (Alizerin red positive) in the tubules; occasional birefringent, bluish to red-orange crystals in the collecting tubules; minimal number of microfilaria in glomeruli; and occasional acidophilic crystalline intranuclear inclusion bodies in the epithelium of the convoluted tubules. This dog had uremia and according to members of the Genitourinary and Histochemistry Branches, AFIP, calcium oxylate crystals can occur as an incidental finding in uremic patients. **Kidney**
- 371
Case II - 69-24 - The morphologic diagnosis in the rhesus monkey was myxofibrosarcoma. The neoplasm was adhered to the liver and stomach. A discrete nodule was also present on the diaphragm. This animal received intramuscular inoculation (one) of Burkett's lymphoma virus at birth and monthly subcutaneous injections of 3, 4, Benzpyrene. **Liver**
- 379
Case III - 68P961 - The morphologic diagnosis in the 11-year-old ~~sentry dog was nonsuppurative~~ encephalitis. In the discussion that followed most participants mentioned that they thought this was inflammatory in origin, but some felt that the lesion could represent metastatic lymphoreticular neoplasia. The term "old dog encephalitis" was discussed. It was felt by several people that the high number of plasma cells in the vascular cuffs was not compatible with Cordy's description of this lesion. **Braim**

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(28)

Histories for Wednesday Slide Conference
21 May 1969

(373)
Case I - 124 - Tissue and blood smear from a 6-week-old female hound. She weighed 1.8 Kg compared to her 3.6 Kg normal litter mate. She presented with lassitude, non-tender distended abdomen, and pale mucous membranes. Her stools were soft, normal in color, and negative for parasitic ova or protozoa. The animal's condition had deteriorated greatly by the second day of observation and euthanasia was advised.

(127-)
Case II - 2829 - Guttural pouch from an 8-day-old thoroughbred filly that showed abnormal voice sounds and some neurological signs.

(27-)
Case III - 6829 - Lesion from the skin of the right flank and lumbar region in an aged spayed female Siamese cat.

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21 May 1969

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LIVER

Case I - The morphologic diagnosis in the 6-week-old hound was suppurative granulomatous hepatitis due to *Actinomyces* sp. Cultures were confirmed by Dr. Lucille K. Georg at CDC. The blood smear showed a marked leukemoid reaction. WBC was 91,080/mm³ and PCV 15% on March 4, 1969. WBC was 72,490/mm³ and PCV 10.5% on March 5, 1969. Granulocytes in peripheral blood gave positive peroxidase stain and a low alkaline phosphatase value (value of 4 which is very low compared to normal control).

Ref.:

Swerczek, T.W., Schiefer, B., and Nielsen, S.W.: Canine Actinomycosis. Sonderdruck aus Zentralblatt für Veterinärmedizin [Zbl. Vet. Med. B, 15, 955, 1968].

374

Case II - The morphologic diagnosis in this 8-year-old thoroughbred filly was emphysema of the guttural pouch secondary to rhinopneumonitis and inflammation of the guttural pouches, the histologic findings were unremarkable. The herpes-like intranuclear inclusions were interesting. None of the participants had ever seen inclusions in the guttural pouch, but there have been reports of inclusions in the trachea with rhinopneumonitis.

375

SKIN

Case III - The neoplasm in the Siamese cat was diagnosed as an adenocarcinoma of adnexal origin. Many people thought there was definite sweat gland differentiation. This neoplasm was highly malignant, metastasizing to the choroid of the eye, lungs and myocardium. There were no lesions in the brain.

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Histories for Wednesday Slide Conference
28 May 1969

29

(27)
Case I - 21303 - Tissue from an anemic 2-year-old female fowl with splenic and hepatic amyloidosis.

(277)
Case II - 69361 - Tissue from an adult cow that was recumbent for 4 days and was euthanized. Prior to recumbency, she circled and had bulging eyes. She had a normal appetite during all of her illness.

Case III - 224-68-63 - Tissue from a male German shepherd, 11-years-old, with progressive posterior paralysis.

Bonus - 2454 - Tissue from a 10-year-old German shepherd with signs of cervical pain for a 3-month duration.

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Results of Wednesday Slide Conference
28 May 1969

376
Case I - The bone condition in the 2-year-old female fowl is recognized as a physiological phenomenon that runs parallel with follicle maturation in the ovary, and the formation of the calcium shell. As the quantity of calcium salts utilized in shell formation is very great, a physiological store of calcium is provided by bone formation, from which the body can obtain the increased calcium requirements without adverse effects on other calcium reserves. When the laying period ends, the bones are reduced again. This condition, Osteomyelosclerosis, occurs in up to 57 per cent of old sexually mature hens during the laying period, and in milder form in female pigeons, ducks, geese, turkeys, and wild birds. There are no clinical signs associated with the condition. When the bone marrow is replaced, hemopoietic activity is taken over by the spleen and liver. In this case, the amyloidosis in the secondary hemopoietic organs resulted in anemia.

Ref.: Nieberle and Cohrs: Textbook of the Special Pathological.

Anatomy of Domestic Animals. First Edition, 1967, 343-344.

377
Case II - The adult cow had an acute suppurative myelitis, due to Listeria monocytogenes. The characteristic lesions were perivascular cuffing with plasma cells and lymphocytes and formation of micro-abscesses with the causative organism present in peripheral macrophages.

378
Case III - The majority of participants thought the neoplasm in the 11-year-old German shepherd was a meningioma. Differential diagnosis included neurofibroma. Other lesions present were minimal

demyelination and axonal swelling in the cord with a focus of ossifying pachymeningitis in the dura mater.

Benus - The 10-year-old German shepherd with cervical pain had ossifying pachymeningitis. See ans sheet 4 June 64

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Histories for Wednesday Slide Conference
4 June 1969

30

Case I - 3130 - The smear is a 3-day buffy coat culture from a 5-year-old Holstein cow born and raised in Wisconsin.

381
Case II - 450686 - Tissue from a 14-year-old, female cat, with a history of periodic intestinal blockage for the last year. An abdominal mass was palpated.

Case III - 13,721 - Disregard the kidney section on this slide. The other tissue was taken from the posterior thorax of a young adult female Cameroon goat that died suddenly. There were no previous signs of illness. Twins had been born 5 months before death. Grossly, the tissue was a pale yellow, smooth, firm oval, 2x5 cm.

353
Case IV - 44-350 - Abdominal mass from an adult female ICR Swiss mouse.

Bonus - 69-1199 - Ovaries removed from a 2-year-old rhesus monkey.

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Results of Wednesday Slide Conference

4 June 1969

380
Case - 3130 - The buffy coat culture smear from the 5-year-old Holstein cow revealed many protozoan parasites identified as Trypanosoma theileri. The cow from which these slides were made had advanced malignant lymphoma, but trypanosomes have also been found in blood cultures of many normal Wisconsin cattle. Parasites were not seen in direct peripheral blood smears.

REF.:

Malmquist, W.A.: Trypanosomes in Leukocyte Cultures. Vet. Rec., 77: 350, 1965.

Cross, K.F., et al: Trypanosomes Associated with Bovine Lymphocytosis. J.A.V.M.A., Vol. 153, No. 5, Sept. 1, 1968.

381
Case I - 450686 - The abdominal mass in the 14-year-old cat was an adrenal neoplasm that measured 5 cm. x 8 cm. The tumor contained large areas of necrosis and hemorrhage. The section submitted for your examination was more representative of the basic cell type in the neoplasm. The contributor's diagnosis was pheochromocytoma. The gross specimen turned brown in color when a 5% solution of potassium dichromate was applied. Cortical adenoma was considered in the differential diagnosis.

382
Case III - 13,721 - The tissue from the Cameron goat was liver with areas of hemorrhage and necrosis. Interspersed between bile ducts were vessels and fibrous tissue, collapsed stroma, and occasional islands of hepatocytes. At necropsy, the reticulum, omasum, part of the omentum, and the lesion sectioned were herniated through the hiatus esophagus. Trapped compartments contained dark, brown-black, foul smelling fluid. Posterior to the hernia, the rumen was distended with liquid. Lungs were congested and edematous. The heart was pale and flabby. There were no other significant gross lesions. The case of atrophy due to stricture might bear some resemblance to the infarction and atrophy of mouse and rat liver due to vascular occlusion or torsion of a lobe as described on page 16, "Pathology of Laboratory Rats and Mice", edited by Cotchin and Roe. The lesion was not recognized grossly as liver, and all the liver appeared to be posterior to the diaphragm.

383
Case IV - 44-350 - The abdominal mass in the female ICR Swiss mouse was a teratoma of the ovary. Other tissues on the slide were not related to the case. Ciliated columnar epithelium, stratified squamous epithelium, sebaceous glands, apocrine glands, bone, cartilage, nervous tissue, and muscle were present in the teratoma. Most sections contained a small section of oviduct which was helpful in identification of the affected organ.

Boaus - 69-1199³⁸⁴ - The ovary from the 2-year-old rhesus monkey had polyovular follicles. Up to thirteen ova per follicle and eight nuclei per ovum can occur in this condition. They are frequently bilateral and undergo atresia. Polyovular follicles have been reported in mice, rats, opossums, and several species of domestic animals.

Ref.:

Willis, R. A.: Borderline of Embryology and Pathology. 2nd. ed., pp. 100-101, 1962.

Cotchin and Roe: Pathology of Laboratory Rats and Mice, p. 407.

Notes on Cases Previously Reviewed

Case III - 224-68-63 - Conference of 28 May 1969. This neoplasm in an 11-year-old German shepherd was in the fifth lumbar area. Serial sections revealed the origin of this neoplasm to be limited to the nerve sheath of the dorsal root, i.e., Neurilemoma.

Case III - 775-6846 - Conference of 22 January 1969. This ocular neoplasm in an 8-year-old Siamese cat was previously diagnosed as an adenocarcinoma of the non-pigmented ciliary epithelium. Further investigation showed that Fontana stain was positive and mucopolysaccharide stain was negative. Dr. Zimmerman now feels this neoplasm is a malignant melanoma, which concurs with the majority of conference participants.

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