Crossing the Road – Poultry Getting Veterinary Care

Common Case Presentations -

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This talk discusses the most common presentations seen in poultry species. These include the following:

1) Trauma

Birds are often presented for primary physical damage and secondary bacterial infections. Primary physical damages are commonly a result of predation, behavior/pecking from other birds, and entrapment. The skin is very thin and easy to repair with suture or glue. Repair may not be necessary and wounds are frequently allowed to heal by secondary intention. Mammalian bite wounds can introduce *Pasteurella multocida*, the causative agent for fowl cholera. This organism can set up a carrier state and shed later in the bird's life resulting in flock infections. The most common isolates from bite wounds included P. multocida, Streptococcus, and Staphylococcus.

2) Pododermatitis / Bumblefoot

Infection of the skin, subcutaneous tissue (foot pads), tendons, and bones of the foot may result from an injury (eg. puncture wound) or burns due to urea in droppings. Foot may appear swollen and/or have a circular wound on the plantar surface of the central foot pad. Antibiotics are frequently administered but rarely work alone with these cases. Abscesses in birds are caseous and have little vascularity. This requires minor surgical intervention to open/drain, remove caseous plugs, and apply long term release antibiotics. Treatment will be covered in surgical section.

3) Ingluvies (crop) issues

Sour crop ("crop mycosis", yeast infection of the crop, *Candida albicans*), parasitic infections (*Capillaria sp.*), protozoal infections (Trichomoniasis) and impaction of the crop can occur. Treatment by cleaning waterers, adding iodine or copper sulfate to the water for 3-5 days, Marek's disease can also result in reduced emptying of the crop. Microscopic examination of the crop contents (and check pH – normal is 5.5) and fecal examination may help differentiate these conditions. Impactions may require endoscopy or surgical intervention. Dropped crops do occur and with supportive slings, birds can live a normal life span.

4) Management – including nutrition / overweight hens

Often when presented with a case, we do not see the environment, feed, or water that the flock is being given. Owners may also give supplements (human, animal, other) they believe may help – but are not considered by the owner to be a "medication". It is important to ask questions about the environment, social situation, feed source/duration/condition, etc. Encourage owners to bring pictures or visit the farm if possible.

Rodent control is an important part of poultry management.

Condition of the footpads and feathers may give some clues to the environment.

Have owners bring a sample of feed (especially if you suspect the problem is not infectious). Look and smell the feed carefully for mold, clumping, general condition. Be sure to ask if they are giving any minerals (supplying limestone or oyster shells is good), diatomaceous earth, oregano etc.

Obesity in the adult hen is a major cause of death in hens. It can result in fatty liver hemorrhagic syndrome and egg yolk peritonitis. This can be prevented by identifying hens with high body condition scores and slowly reducing caloric intake and increasing enrichment activities.

5) Respiratory Disease

Clinical signs include nasal discharge, wheezing, snicking, conjunctivitis, gasping, shaking the head, swollen head, swollen sinuses, increased mortality.

This is **reportable** to the state veterinarian office or USDA VMO if there is a flock with high morbidity of respiratory signs or increased mortality. Regarding the individual patient, first stabilize with oxygen supplementation in a warm, low stress environment. Collect diagnostic samples – typically swabs in BHI for PCR and possibly blood for serology. Swabs and BHI can be obtained from your state diagnostic lab.

Treatment can include antibiotics, probiotics to prevent secondary crop mycosis.

Possible pathogens include (but not limited to ...)

- Avian influenza\*
- Newcastle disease\*

Mycoplasma (MG MS MM)\* lifetime carrier

Infectious bronchitis\*

Laryngotracheitis (ILT) \* lifetime carrier

Infectious coryza \* lifetime carrier

Avian Pox lifetime carrier

E. coli

P. multocida lifetime carrier

Aspergillosis

Gapeworm (Syngamus trachea)

Ammonia from poor hygiene and ventilation

\*PCR available at state lab (swab in BHI)

Diagnosis is important due to carrier states and treatment options. Strict quarantine is advised until diagnosis is made. For supportive care of individual, keep warm and quiet, easy access to electrolytes and feed (consider tube feeding), treat secondary bacteria.

6) Enteritis

Not all loose droppings are abnormal. Poultry (esp. chickens and turkeys) have cecal dropping daily that can be more fluid, foam, and lighter in color.

Potential causes of enteritis include coccidiosis, Clostridial disease, histomoniasis, Salmonella/E. coli, and virus (numerous).

Other cause of flushing can include high water consumption (heat), salt toxicity, and high sulfur content in the water.

Coccidia are common. In young birds (under 6 months), coccidia can cause loose droppings with increased orange to red content. It can result in lethargy and reduce body condition resulting in death. Amprolium is the common treatment, although SMZ and other sulfas can be used. Diagnosis can be on fecal floatation or intestinal lesions at necropsy. Birds should be symptomatic as well as fecal float positive.

In adult birds without symptoms, coccidia inhabitant the intestine normally and are frequently found on fecal examinations.

Clostridial diseases (necrotic enteritis – C. perfringens, ulcerative enteritis of quail – C. colinum) are often secondary to coccidia infection and/or stress. Bacitracin is labeled for poultry use. Penicillin and Clavamox (FARAD long withdrawal) can be used.

7) External parasites

Lice – chewing species that give a moth-eaten appearance to the feathers. Can see white nits on feather follicles.

Mites – The Northern fowl mites which lives on the bird and will appear as fast-moving black specs. The chicken or red mite lives in housing but feeds on the birds. Birds may avoid nest boxes. Scaly leg mites live on the birds and result in thickening of the scales of the legs. Treatments include a variety of pesticides (spray and powder for birds and environmental application) and applied medications (ivermectin or moxidectin (oral/topical for individual). Resistance to permethrins has been reported.

Dustbathing is important to control of external parasites. This can be diatomaceous earth, kaolin clay, sand, etc.

8) Neoplasia – Mareks, lymphoid leukosis, Adenocarcinoma

<u>Marek's Disease</u> is common and easily prevented by vaccination, subcutaneously, at day of age in the hatchery. Large box store chicks are currently NOT vaccinated. The virus is considered ubiquitous in the environment. It is highly contagious and transmissible. Vaccinated birds will shed the virus but have reduced symptoms.

Common age -10 - 20 weeks. Disease included fowl paralysis, T cell lymphoma (difficult to distinguish from avian leukosis), skin leukosis, nerve damage associated with drop crop etc. <u>Avian lymphoid leukosis</u> is a retrovirus associated neoplastic syndrome. Disease develops with vertical and very early age horizontal exposure. Signs appear 14 weeks or later. Firm Coelomic enlargement or diffuse masses.

Differential Diagnoses include adenocarcinoma, other neoplasia, as well as egg yolk peritonitis, and salpingitis.

9) Female reproductive issues include:

Ovarian/oviduct neoplasia • Egg related coelomitis -- Yolk peritonitis/ectopic ovulation •
 Salpingitis/metritis - oviductal impaction • Cystic right Mullerian duct • Excessive/chronic egg laying • Cystic Ovarian Disease • Egg binding/dystocia

One of the most common disease processes is egg related coelomitis (egg yolk peritonitis). It has a wide variety of presentations (even normal). This is likely due to retrograde movement of egg contents into the coelomic cavity. This could be related to salpingitis or egg gland infection, impaction, or conformation issue (including large fat pads). Dehydration and calcium status may be contributing factors.

Imaging by ultrasound/radiographs and coelomocentesis can help differentiate between conditions. Medical treatment may include antibiotics and anti-inflammatory medications. However, surgical intervention may be necessary to diagnose and treat.

10) Toxin exposure – Mycotoxin exposure, botulism, lead are most common.
Other exposures include accidental exposure to high levels of copper via copper sulfate treatment of water, insecticides/rodenticides used in the environment, sulfonamides, and feed ingredient (eg. salt)/additive (eg. ionophor) errors.
Often diagnosis is made on clinical signs and the 2 H's (history and histopathology). Necropsy with toxicology request can be diagnostic.

Common solutions and treatment aids for poultry and game bird producers

http://extension.msstate.edu/content/solutions-and-treatments

Common pesticides for mite/lice treatment

http://extension.msstate.edu/content/pesticides-used-for-control-poultry-insect-pests