Affection of the avian reproductive tract

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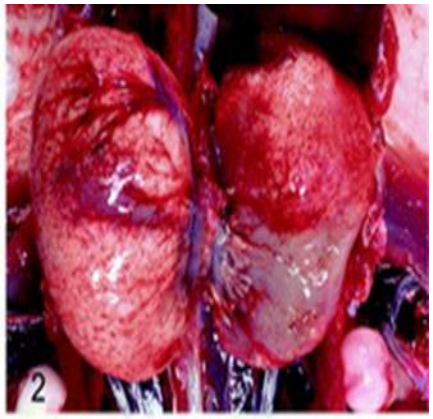
Orchitis

1. Male reproductive disorders

- Orchitis is an inflammatory process in the testis. Orchitis can be uni- or bilateral.
- Orchitis can be primary (neoplastic, bacterial), secondary to other diseases, or originate from adjacent organ systems.
- A variety of Bacterial causing avian orchitis are *E. coli*, Salmonella spp., *P. multocida* and *C. psittaci.*
- Orchitis or epididymitis may follow a general psittacosis infection.
- Infection can originate from cloacitis, prolapsed phalli, or septicemia.
- Bacterial orchitis can lead to permanent sterility.
- The **signs** that often leads to a diagnosis of orchitis is infertility.

- Lesions one or both testis is abnormally shaped and swollen with yellow foci, prominent vessels, fibrin on the surface, and multiple petechiae on the tunica albuginea.
- Diagnosis of orchitis can done by endoscopic examination.
- Treatment by antibiotic in bacterial infection, but does not result in a functional testicles.



Testicular neoplasms

- Testicular tumors is frequently observed in budgerigars (Melopsittacus undulatus), and sporadically seen in other bird species.
- Some specific neoplasms have been conformed with histopathology include: seminomas, Sertoli cell tumors, Leydig cell tumors, tubular adenomas, teratocarcinomas, carcinomatoid embryomas, anaplastic tumors, sarcomas, and spindle cell sarcomas.

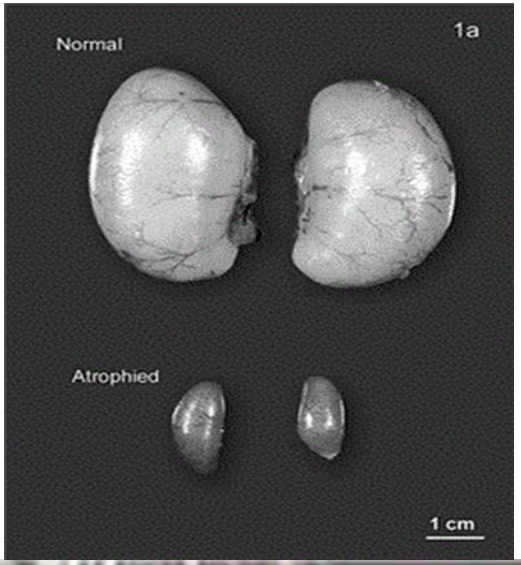
Sertoli cell tumor in a budgerigar.

- A definitive diagnosis can made on postmortem examination.
- In the living diagnosis can be done by testicular biopsy.
- Treatment: can be surgical, and includes orchidectomy.
- Megestrole acetate, administered orally at 1–3 mg/kg, orally, every 24 hours, for 7–10 days before surgery, will reduce testicular (and tumor) size and limit the blood supply to the organ, making surgery easier.

Testicular degeneration/Testicular Atrophy

Decreased flock fertility.

Some replacement (spiking) males, in poor environmental conditions, and decreased feed consumption led to the loss of weight, testicular atrophy, and decreased or no spermatogenesis in individual birds.



Secondary forms of testis degeneration, due to malnutrition, bacteriemia, vitamin E deficiency, or toxins (as lead and cadmium).

Spermatogenesis ceases, and in severe cases fibrotic process develops. It is considered permanent

Phallus prolapse

This condition is observed in Anseriformes and Ratites.

- In 1st, the cause is traumatic: the erected phallus is traumatized when birds try to copulate on the ground , when birds are kept in the absence of water.

Duck's

The traumatized phallus becomes infected, and the bird is unable to retract it.

Bacterial, mycoplasmal infections, and extreme weather fluctuations may play a role in phallic prolapse.

Neisseria spp. have been isolated from erosions of the phallus, cloaca, and oviduct of geese, and are believed to be sexually transmitted.

- In Ratites, especially ostrich, the primary cause is also attributed to trauma.

.The exposed phallus is traumatized when the animal lays down and displays or ‘‘dances’’ in front of the female. Debilitation at the end of the breeding season and temperatures of 0LC and high humidity.

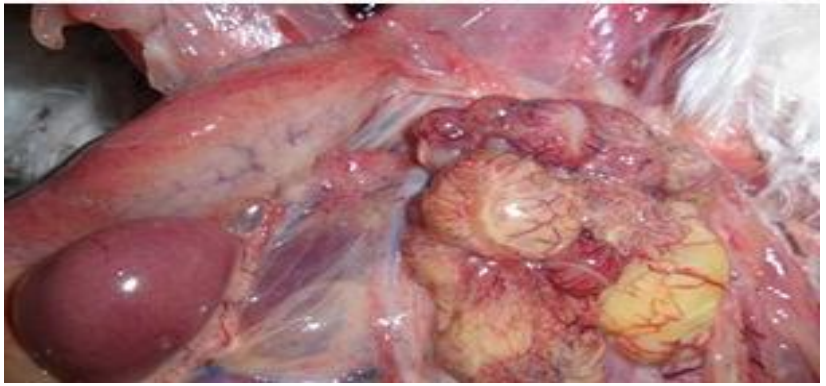
Treatment is based on disinfecting and daily flushing idine solution, application of antibiotic ointments and systemic treatment with broad-spectrum antibiotics.

Prolapsed phallus, mature ostrich cock.

2. Female reproductive disorders

Oophoritis

- In adult female ovary caused by bacteria (Salmonella, pasturella , mycoplasma, Chlamydia), or virus (ND and AI).
- Further-more, oophoritis often evolves into peritonitis.
- Clinical signs are not specific and can include depression, anorexia, weight loss, distended abdomen, or sudden death .
- They may be chronic (depression, loss of appetite, and progressive wasting), acute, or even peracute, with sudden death.



- Diagnosis may include radiology, endoscopy, hematology, and bacterial and fungal cultures from the cloaca.
- Antibacterial therapy and combined with hormonal therapy, to decrease ovarian activity.

Regression of the ovary is frequently caused by low body weight, deliberate reduction of feed, overcrowding, or lack of feeder space.

Infectious diseases known to cause regression of the ovary include:

Newcastle disease
fowl cholera
pullorum disease
avian influenza

Regression of ovarian follicles

Salpingitis/metritis

- Salpingitis indicates a inflammatory process involving the proximal portion of the oviduct (infundibulum, magnum, and isthmus.
- Metritis is an inflammatory lesion of the distal oviduct (uterus).
- Both salpingitis and metritis are often bacterial in origin, and produce oviductal impaction.
- Metritis can occur as an ascending infection from cloacitis, or secondary to pneumonia, aerosacculitis, or septicemia/bacteremia.
- Bacterial causing salpingitis/metritis include: Enterobacteriacae (E. coli, Klebsiella, or Salmonella spp.), Pasteurella, Staphylococcus, or Streptococcus and Mycoplasma or Chlamydia. Viruses such as NDV , IBV, and the Avian Adenovirus Salpingitis (AAVS).

Salpingitis

- **Clinical signs** are vague and include abdominal distension, tenesmus, depression, weight loss, infertility, and abnormally shaped or abnormally colored eggs.
- **Diagnosis** is generally based on clinical signs, hematology, radiology, and ultrasound. In the larger species it is possible to perform an ascending cloacoscopy to visualize this condition.
- **Treatment** is based on broad-spectrum antibiotics and general supportive therapy. Oviduct flushing is possible in the larger birds such as Ratites, salpingohys-terectomy; if the bird does not improve quickly.

Ectopic eggs

- The presence of eggs in the coelomic cavity may depend on several factors, including uterine rupture or reverse peristalsis of the oviduct.
- Reverse peristalsis can be caused by stress, nutritional imbalances, obstructions, or salpingitis.
- Diagnosis is aided by palpation, radiology, or ultrasonography.
- Ectopic eggs must be surgically removed.

Egg yolk peritonitis

- The presence of ectopic eggs often evolves into egg peritonitis.
- Egg peritonitis may be an aseptic condition, while, majority of egg peritonitis are septic and may result in septicemia. It is important to distinguish whether only egg yolk from an ovulated ovum is present, or if there is also albumen or infectious material from the oviduct. Even sterile albumen can cause a more severe reaction than the yolk alone.

Among pet birds, budgerigars (Melop-sittacus undulatus), cockatiels (Nymphicus hollandicus), and lovebirds (Aga-pornis spp.) are more often a ected than other species.

Affected birds are depressed, loose weight, are dyspneic (or display labored breathing), and show a dilated abdomen. Ascites and abnormal postures might also be present.

Diagnosis based upon the clinical presentation, but it should be confirmed by radiology and/or ultrasound.

Egg retention and dystocia

• Egg retention may be described as an egg that is not laid within the normal time .

•Dystocia can be described as the mechanical obstruction of the egg passage in the caudal part of the oviduct (uterus and vagina) .

•**Causes** of egg retention are multifactorial, and involve oversized or misshapen eggs, thin eggshell, excessive egg-laying calcium deficiency, Vitamin A, E, and selenium deficiency abdominal hernia, dysfunction of the oviduct, obesity, torsion of the uterus, neoplasia, infectious diseases of the oviduct, and genetic predisposition.

•**Signs** are distended abdomen. Other signs might include lameness, leg paralysis, or respiratory difficulty .

•**Diagnosis :** The diagnosis of egg retention should be based on clinical signs, physical examination, radiography, and/or ultrasonography.

Oviduct prolapse

This is most common condition affect laying birds.
The uterus is the most distal portion and the commonly prolapsed.
This condition occurs secondary to normal physiologic egg laying or as a sequela to dystocia.
Predisposing factors for a prolapsed uterus include malnutrition, salpingitis, cloacitis, and soft shelled or otherwise abnormal eggs.
Treatment: not applicable in commercial.

Chronic egg laying

Chronic egg laying occurs when a female bird lays more than the normal number of eggs or lays repeated clutches of eggs.

This disorder, common in budgerigars, lovebirds, and cockatiels, can be in other species.

Chronic egg laying is more common in hand reared females, especially if imprinted and single.

Predisposing factors include an unbalanced diet, psychogenic factors, genetic prob-lems, inadequate environmental management, and other factors that alters the normal hormonal balance.

Treatment should be based on deferent steps involve:

- Behavior: laid eggs should be left in the nest to avoid the ‘‘double clutch phenomenon.’’ Remove all possible sexual stimuli like toys and mirrors.
- Environmental changes, including the removal of the nest.
- Nutritional changes should first focus on an adequate supply of calcium and vitamins to avoid nutritional imbalances.

In budgerigars and cockatiels limiting their access to water for a couple of hours in the morning and in the afternoon, for a period of 3 or 4 days might interrupt the egg laying. But this should be done only under an intensive medical control.


THANK
YOU