

Ovarian Dysfunction in Pet Chickens

Carlingford Animal Hospital

A physical examination of your chicken has revealed the presence of fluid in the abdominal cavity. This fluid build up is a serious condition that requires immediate attention. The most common cause of this problem is a malfunctioning ovary. X-rays have been recommended in order to eliminate the possibility of egg binding or uterus problems as another cause of this fluid build up.

Emergency Treatment

The fluid build up associated with ovarian dysfunction causes significant discomfort due to fluid pressing onto the lungs, air sacs and internal organs. Immediate treatment is required to relieve this pressure. The fluid is drained by placing a needle in the abdomen and withdrawing the fluid. Lost fluids, energy and nutrients are replaced by crop feeding a high energy, calcium enriched, emergency formula. The results of microscopic testing of the fluid and your bird's response to this emergency treatment allows us to understand the exact nature of the problem. When a rapid response to the emergency treatment appears within 10 minutes, the ovarian dysfunction is able to be controlled and the outlook for a full and rapid recovery is strong. A failure to respond to this emergency treatment indicates an advanced problem with a more guarded outlook for recovery. After draining the retained fluid and monitoring your bird's response to this emergency treatment, a repeat X-ray is taken to evaluate the ovaries. A barium meal X-ray is taken to outline to ovaries. This is a very useful diagnostic tool as it allows Dr Marshall to assess the size of the ovary follicles and detect other problems which cannot be detected when the abdomen is full of fluid.

Types of Ovarian Dysfunction

There are a number of types and causes of ovarian dysfunction in pet birds. By diagnosing the exact condition we are then able to develop the best treatment plan and present you with a prognosis regarding recovery in both the immediate and long term future.

Ovarian Dysfunction with Yolk Fluid Retention

Ovarian dysfunction with yolk fluid retention is characterised by a distended abdomen caused by the build up of a clear yellow fluid within the abdominal cavity. In its early stages, this condition does not affect other body systems but as more fluid is retained, pressure is placed on the organs and there may be some physical difficulty with moving and breathing.

This ovary problem is functional and most likely follows a stressful episode (cold/wet weather, fright) that has disrupted the normal ovulatory cycle and led to an uncontrolled hormonal surge. This surge normally continues for 2-3 days then normal hormone levels drop. With this condition, high female sex hormones persist and leads to the rapid build up of egg yolk fluid within the abdominal cavity. It is necessary to drain the fluid to relieve pressure on the internal organs. A repeat X-ray is then taken and when multiple large ovarian follicles are seen, this indicates a recent problem and the outlook for a rapid recovery is very good. It is necessary to check each day that the fluid is not reforming and in most cases, this type of ovarian dysfunction can be successfully managed with one draining procedure. When the fluid has reformed, it indicates the hormonal surge has not been fully controlled and further draining is required. In the worst cases, 3-4 days of draining may be required before normal ovarian function is restored. This condition is prevented by the Ovarian Support Programme (see over).

Inflammatory Ovarian Dysfunction with Egg Yolk Peritonitis

This type of ovarian dysfunction occurs when there is an inflammatory reaction to the build up of egg yolk fluid in the abdominal cavity. The retained fluid is free from bacteria but has a cloudy, yellow appearance and sometimes cheese-like particular matter is present. The immediate treatment involves draining the fluid to relieve the pressure on other body organs and halt the inflammatory response. A repeat X-ray is then taken to view the ovary follicles. Small, undeveloped follicles indicate a long-standing problem with a slower recovery time anticipated. A follow up check the next day determines if the fluid accumulation has recurred and subsequent draining procedures are often required. Egg Yolk Peritonitis associated with this type of Ovarian Dysfunction requires a longer treatment plan to relieve inflammation. The outlook for a full recovery is guarded. When recovery is delayed a hormone injection is required to cease all ovarian activity.

This problem is most often seen in birds older than 2-3 years and the underlying cause is usually ovarian cancer. This is a common problem in commercial breeds (e.g. Isa Brown) where hyperactive ovaries have been found to contribute to a high incidence of spontaneous ovarian cancer. Ovarian cancer is far less common in pure breeds who do not lay year round. The first sign of ovarian cancer is irregular egg laying which may be accompanied by general unwellness, weight loss and lethargy.

Bacterial Egg Yolk Peritonitis

Bacterial egg yolk peritonitis associated with an ectopic egg is the most serious form of ovarian dysfunction. The outlook for this scenario is poor. The retained fluid is smelly, brown and contaminated with bacteria and as above, must be immediately drained from the abdominal cavity. The smell of the drained fluid indicates infection and differentiates this form of ovarian dysfunction from the above. Microscopic examination and a culture test of the fluid are taken to determine the type of bacteria and develop a treatment plan that includes an appropriate antibiotic.

Ovarian Cysts

Ovarian cysts are an uncommon cause of fluid build up in chickens. X-rays will reveal an extremely large, solitary ovarian follicle that requires endoscopic evaluation and surgical removal. The outlook following surgery is good.

Stalled Ovary with Gizzard Impaction due to Mineral Craving

This problem most often occurs at the onset of breeding activity in early Spring when temperature fluctuations may disrupt the normal ovulatory cycle. At this time, birds develop a craving for minerals in response to rising hormone levels in preparation for egg shell production. Warm weather during Spring stimulates breeding activity but may be disrupted by a sudden cold spell. Nowadays with climate change, an extremely hot day may also occur with the same effect. The sudden stress of these extreme temperature changes (or fright) causes an interruption of the normal breeding cycle whereby hormone levels remain elevated. A normal breeding cycle sees a natural rise then fall in hormones after the egg shell is produced. In birds with a stalled ovary, the continual mobilisation of calcium from the organs to the bones in readiness of egg shell production weakens gizzard function and predisposes to digestion disorders. In addition, whilst seeking minerals from their environment the bird over-engorges on minerals which cause gizzard impaction and impaired digestive function. Unlike more advanced cases of ovarian dysfunction, there is no fluid build up in the abdomen with this problem. Treatment of a stalled ovary with mineral craving focuses on treating the impacted gizzard and restoring good digestive function.

Ovarian Dysfunction Loading Treatment (7 days)

This immediate treatment plan is followed for 7 days. Quik Gel and Hi-Cal are provided in the drinking water to provide a sustained source of energy and calcium. Antibiotic treatments may also be incorporated into this initial treatment programme according to the results of dropping analysis and cultures. Dietary changes involving "wet" foods (i.e. boiled rice, mushy beans and cooked vegetables) may also be recommended to restore healthy digestion.

	Optional Medication	In Drinking Water	On Sterile Seed	Dietary Recommendations
Day 1		Quik Gel & Hi-Cal ¹	Turbobooster, E-Powder & F-Vite ²	<input type="checkbox"/> Cooked rice
Day 2		Quik Gel & Hi-Cal ¹	Turbobooster, E-Powder & F-Vite ²	<input type="checkbox"/> Cooked beans
Day 3		Quik Gel & Hi-Cal ¹	Turbobooster, E-Powder & F-Vite ²	<input type="checkbox"/> Cooked vegetables
Day 4		Quik Gel & Hi-Cal ¹	Turbobooster, E-Powder & F-Vite ²	<input type="checkbox"/> Apple/Orange
Day 5		Quik Gel & Hi-Cal ¹	Turbobooster, E-Powder & F-Vite ²	<input type="checkbox"/> Apple puree
Day 6		Quik Gel & Hi-Cal ¹	Turbobooster, E-Powder & F-Vite ²	<input type="checkbox"/> Other _____
Day 7		*Medications are mixed with drinking water supplements	Quik Gel & Hi-Cal ¹	Turbobooster, E-Powder & F-Vite ²

¹ Mix 1 drop Quik Gel and 1ml Hi-Cal thoroughly into 100ml drinking water. May also be mixed with rice and cooked vegetables.

² To 100gm of sterile seed add 6 drops of Turbobooster and mix thoroughly. Then add 1gm (white spoon) each of E-Powder and F-Vite and mix again so that these powders stick to the Turbobooster oil impregnated seed.

³ Mix 1gm KD Powder (white spoon) into 1 litre of water and use this to disinfect the feeding utensils.

Ovarian Dysfunction Support Programme (8 weeks)

The Ovarian Support Programme continues for 6-8 weeks. It provides the additional nutrition, energy and calcium required to restore for normal ovary and digestive function. In birds with a history of ovarian dysfunction, this programme should resume whenever stress factors (cold/wet weather, fright etc.), which were the precipitating cause of the original episode of Ovarian Dysfunction.

	In Drinking Water	On Sterile Seed	Dietary Recommendations
Day 1	Quik Gel & Hi-Cal ¹	Turbobooster, E-Powder & F-Vite ⁵	Provide beans, rice and/or fruit as directed by Dr Marshall as daily shared meals in the morning and evening. <input type="checkbox"/> Cooked rice <input type="checkbox"/> Cooked beans <input type="checkbox"/> Cooked vegetables <input type="checkbox"/> Apple/Orange <input type="checkbox"/> Apple puree <input type="checkbox"/> Other _____
Day 2	Quik Gel & Hi-Cal ¹	Turbobooster, E-Powder & F-Vite ⁵	
Day 3	Ioford, Dufoplus & Hi-Cal ²	Turbobooster, E-Powder & F-Vite ⁵	
Day 4	KD Powder ³	Turbobooster, E-Powder & F-Vite ⁵	
Day 5	Inca Honey & Hi-Cal ⁴	Turbobooster, E-Powder & F-Vite ⁵	
Day 6	Fresh water	Turbobooster, E-Powder & F-Vite ⁵	
Day 7	Fresh water	Turbobooster, E-Powder & F-Vite ⁵	

¹ Mix 1 drop Quik Gel and 1ml Hi-Cal thoroughly into 100ml drinking water. May also be mixed with rice and cooked vegetables.

² Mix 1ml Hi-Cal, 10 drops Ioford and 5 drops Dufoplus thoroughly into 100ml of drinking water.

³ Mix 1gm KD Powder (white spoon) into 1 litre of drinking water. Fill the water vessel and use the remainder to clean the cage.

⁴ Mix 6 drops Inca Honey and 1ml Hi-Cal thoroughly into 100ml drinking water.

⁵ To 100gm of sterile seed add 6 drops of Turbobooster and mix thoroughly. Then add 1gm (white spoon) each of E-Powder and F-Vite and mix again so that these powders stick to the Turbobooster oil impregnated seed.

Complicating Factors - Secondary Gizzard Impaction

Hormonally induced mineral cravings causing secondary gizzard impaction often complicate ovarian dysfunction. Females will eat large pieces of dirt, rocks, grit and even metal fragments in an attempt to satisfy their craving.

To overcome these cravings, minerals and protein are added to the diet in the form of Quik Gel, Hi-Cal, Turbobooster, E-Powder and F-Vite.