Ovarian Dysfunction In Pet Chickens

Carlingford Animal Hospital

A physical examination of your chicken has revealed the presence of fluid in her 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. Xrays 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 the fluid pressing onto the lungs, air sacs and other internal organs. Immediate treatment is required to relieve this pressure. The fluid is drained by placing a large 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 in its early stages 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 guarded outlook for recovery.

After draining the retained fluid and monitoring your bird's response to this emergency treatment a repeat Xray is taken to evaluate the ovaries. This is a very useful diagnostic tool as it allows Dr Marshall to assess the size of the ovary follicles and detect other associated problems which cannot be detected when the abdomen is full of fluid.

Types of Ovarian Dysfunction

There are 4 main types of ovarian dysfunction in chickens. 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.

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 but with this condition persists and rapidly leads to the accumulation of egg yolk fluid within the abdominal cavity. It is necessary to drain the fluid to relieve pressure on the internal organs. A repeat Xray 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 this initial draining procedure. When the fluid has reformed, it indicates the hormonal surge has not been fully controlled and further draining is required. The aim of the home care loading treatment (see over page) is to restore normal ovarian function by halting the hormonal surge. 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 page).

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 associated with the egg peritonitis is free from bacteria but has a cloudy, dirty yellow appearance. As above, the immediate treatment involves draining the fluid to relieve the pressure on other body organs and halt the inflammatory response. A repeat Xray 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. This type of ovarian dysfunction requires a longer treatment plan to relieve inflammation and the outlook for a full recovery is more guarded.

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 is the most serious form of ovarian dysfunction and 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. Xrays will reveal an extremely large, solitary ovarian follicle that requires endoscopic evaluation and surgical removal. The outlook following surgery is good.

Ovarian Function Loading Treatment (7 days)

This immediate treatment plan is followed for seven days after the diagnosis and emergency treatment of ovarian dysfunction. 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 including introducing more "wet" foods (i.e. boiled rice, mushy beans and cooked vegetables) may also be recommended to restore healthy digestion.

Day	Optional Medication	In Drinking Water	On Seed	Dietary Recommendations
Day 1	* Medications are mixed with drinking water supplements	Quik Gel & Hi Cal [1]	Turbobooster, E Powder & Fvite [2]	☐ Cooked rice ☐ Cooked beans ☐ Cooked vegetables ☐ Apple/Orange ☐ Apple puree ☐ Other _____ Disinfect the feeding utensils with KD Powder [3]
Day 2		Quik Gel & Hi Cal [1]	Turbobooster, E Powder & Fvite [2]	
Day 3		Quik Gel & Hi Cal [1]	Turbobooster, E Powder & Fvite [2]	
Day 4		Quik Gel & Hi Cal [1]	Turbobooster, E Powder & Fvite [2]	
Day 5		Quik Gel & Hi Cal [1]	Turbobooster, E Powder & Fvite [2]	
Day 6		Quik Gel & Hi Cal [1]	Turbobooster, E Powder & Fvite [2]	
Day 7		Quik Gel & Hi Cal [1]	Turbobooster, E Powder & Fvite [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] Mix 6 drops Turbobooster thoroughly into 100gm seed hen add 1/4 tspn (white spoon) each of E-powder and Fvite 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 Support Programme (8 weeks)

The Ovarian Support Programme continues for 6-8 weeks and is used is to provide the additional nutrition, energy and calcium required for normal ovary and digestive function in chickens. In birds with a history of ovarian dysfunction, this programme should resume whenever stress factors (cold/wet weather, fright etc.) that precipitate ovarian dysfunction are experienced.

Day	In Drinking Water	On Seed	Ongoing Dietary Recommendations
Day 1	Quik Gel & Hi Cal [1]	Turbobooster, E Powder & Fvite [5]	Continue to provide high fibre diet including cooked rice, beans and vegetables as directed by Dr Marshall ☐ Cooked rice ☐ Cooked beans ☐ Cooked vegetables ☐ Apple/Orange ☐ Apple puree ☐ Other _____
Day 2	Quik Gel & Hi Cal [1]	Turbobooster, E Powder & Fvite [5]	
Day 3	Ioford, Dufoplus & Hi Cal [2]	Turbobooster, E Powder & Fvite [5]	
Day 4	KD Powder [3]	Turbobooster, E Powder & Fvite [5]	
Day 5	Inca Honey & Hi Cal [4]	Turbobooster, E Powder & Fvite [5]	
Day 6	Fresh water	Turbobooster, E Powder & Fvite [5]	
Day 7	Fresh water	Turbobooster, E Powder & Fvite [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] Mix 6 drops Turbobooster thoroughly into 100gm seed hen add 1/4 tspn (white spoon) each of E-powder and Fvite 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 as the hen actively seeks minerals in this state. She will eat anything in an attempt to satisfy her continuous craving, particularly in her search for calcium for egg production, and in doing so may inadvertently over-consume materials (e.g. sand, metal etc) that impact the gizzard and impair digestive function. Stomach disturbances and gizzard impaction are more prevalent in this hormonally induced state which further compounds the mineral deficiency. To prevent the recurrence of ovarian dysfunction, a successful treatment plan must include a diet fortified with calcium and nutritional supplements to restore mineral and protein levels in the body and thereby stop the mineral seeking behaviour.