

May 2019

Avian Advice

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Egg yolk peritonitis

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Egg peritonitis (EP) is a condition that causes sporadic death in layers and breeders. Overweight chickens are more prone to EP and increased mortalities due to EP may be seen in poultry flocks that are nearing peak production and also seen after peak production.

Egg peritonitis is a pathological condition in chickens where the reproductive tract is compromised physiologically or pathologically, resulting in the escape of the yolk material from the reproductive tract into the abdominal cavity. Egg yolk material is a highly nutritious source, which favors the growth of different bacterial and viral pathogens. The infectious pathogens may reach the abdominal cavity through bacterial contamination from the cloaca or through translocation from the air sacs. Most of EP clinical cases, involves *E.coli* alone or in combination with other bacterial pathogens such as *Pasteurella*, *Salmonella*, and *Mycoplasma*. Viral diseases such as Infectious Bronchitis, which can affect the oviduct may also play a role in causing the problem. Any type of stress inducers such as parasitic infestation, abnormal weather changes, overcrowding, fright and fear can also influence the development of EP.

Common clinical signs associated with egg yolk peritonitis include abnormal behavior of the chickens such as broody-like behavior and spending more time in the nest box. Affected chickens may also lack interest in eating. In some cases, there can be a history of multiple egg yolks before the development of EP or production of soft shell or misshapen eggs. A distended abdomen in the bird due to the accumulation of egg yolks in the body cavity may also be noticed. Affected

birds may also exhibit a more upright (penguin-like) stance when walking.

Post mortem evaluation of dead birds reveals yellowish fluid, coagulated yolk, inspissated yolk and/or yolk debris in the abdominal cavity. A general septicemia with inflammation and congestion of several visceral organs may also be seen.

Control measures include minimizing risk factors that trigger and influence the development of the condition in chickens. Managing body weight so it is more uniform in the flock can help reduce the incidence to some extent. Avoid overcrowding the chickens and provide adequate ventilation and *ad libitum* clean drinking water. Following good management practices and strict biosecurity measures also help in the reduction of the incidence of EP in a flock.

References:

Diseases of Poultry, 13th Edition. 2014. Wiley- Blackwell Publishing.
Merck Veterinary Manual, 10th Edition. 2010. Merck & Co., Inc.
Poultry Diseases, 6th Edition. 2008. Saunders Elsevier.

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Fig 1&2: Egg peritonitis- Egg yolk material accumulated in the abdominal cavity. Note the inflamed and congested oviduct.



Fig 3: Inflammation of ovaries and oviduct.