Omphalitis

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Other names: Navel-ill, yolk-sac disease, mushy chick disease.

Cause, transmission, and epidemiology: Several bacterial species can singly or in combinations cause this disease. However, the commonest cause is *E. coli*, in which case the disease is also called colibacillosis. Other causative organisms can be various species of *Staphylococcus* and *Proteus*. The causative bacteria are widely distributed in nature and may contaminate water and the soil. *E. coli* in particular is a normal resident of the intestine, and may contaminate feed and water through fecal contamination. It may infect ovaries and through them, chicken embryos before they are hatched. However, contamination of hatching eggs is the common mode of transmission of omphalitis in chicks. Infection occurs at the time of hatching or shortly thereafter, before the navel is healed. Chicks from dirty hatching eggs or eggs with poor quality shells, or newly hatched chicks placed in dirty holding boxes, are most susceptible. Chicks removed prior to complete healing of the navel due to improper temperature and/or humidity are also more susceptible. Eggs that explode in the hatching tray contaminate other eggs in the tray and increase the incidence.

Clinical signs and lesions: Affected chicks show dullness and lack of appetite. Morbidity and mortality rates are variable. Diarrhea, with a pasty vent area, is characteristic. The pasty vent area and cloaca are sometimes plugged with dry feces, unabsorbed yolk sac, containing abnormal yolk material (thin, thick, cheesy, or containing blood). External infection of the navel may be present. Edema of the skin of the ventral body area, septicemia, and dehydration may occur. There are often fibrin deposits on abdominal organs.

Differential diagnosis: Pullorum disease and other *Salmonella* infections in chicks.

Diagnosis: Clinical signs and post-mortem lesions are strongly suggestive. Diagnosis is confirmed by isolation in profuse culture of the bacterial agent and identification.

Treatment: Most affected birds die in the first few days of life. Prompt treatment with suitable antibacterial agent may be successful for a flock although individual birds may not recover.

Prevention: Control is by prevention through effective hatchery sanitation, hatchery procedures, breeder flock surveillance, and proper preincubation handling of eggs. Mushy chicks should be

culled from the hatch and destroyed. If chick mortality exceeds 3 percent, the breeder flocks and egg handling and hatching procedures should be reviewed.

In village chickens, eggs should be cleaned before they are given to hens for brooding.

Recovery: Stunted chicks should be removed and destroyed; surviving chicks should be moved into a cleaner pen and the contaminated one cleaned and disinfected.