INFECTIOUS CORYZA

- Rapidly spreading respiratory disease found primarily in chickens.
- All affected birds will be showing signs by the third day.
- Modern management methods have reduced the incidence, still a problem in congested poultry populations.
- All-in/all-out management practices are recommended.
- Avoid multiple-age farms if possible.

CAUSATIVE AGENT

- Bacterium *Hemophilus paragallinarum*.
- This organism is quite fragile and requires "carrier" birds to transmit the disease under field conditions.
- Surviving hens will remain carriers.

COMMENT

- This disease is quite important the world over in tropical climates.
- In the U.S., it is found mainly in California and Florida in commercial flocks, but may be found most anywhere in backyard flocks.
- It has occurred in South Georgia.

COMMENT

- Infectious coryza occurs in **broilers** in many tropical countries such as Central and South America, Southeast Asia, and Africa.
- It usually occurs after 4 wks. of age and cannot be prevented by vaccination.
- Weight loss and low feed conversion are the results of infection.
- These birds appear sleepy and sit around the walls. Sinuses do not swell much in broilers.
- It may cycle through gamecocks.

COMMENT

- One problem with this disease is the amount of debilitation that results in a flock.
- The cull rate with this condition may run as high as 20%.
- Very costly in started pullets.
- Pullets are usually affected when they come into production. This will decrease egg production.

COMMENT

- If laying hens become infected 40-50% productions losses are common.
- Foreign countries where infectious coryza occurs usually have Mycoplasma infections also.
- Together these conditions are quite debilitating and cause severe economic losses.

INCUBATION PERIOD

One to three days.

COURSE OF DISEASE

- One to three weeks or may become chronic and persist for several months.
- Aggravated by cold, damp weather.
- Secondary infection causes chronic condition.

MORTALITY

- Usually low, but poor management and unsanitary condition as well as secondary infection will increase mortality.

METHOD OF SPREAD

1. Carrier birds.
2. Direct contact and airborne droplets.
3. Contaminated water spreads the disease once it is established in the flock.

CLINICAL SIGNS

1. Clear nasal discharge that becomes thick and purulent.
2. Severe unilateral or bilateral swelling of infraorbital sinuses, with eyes completely closed. Foam may accumulate in the corner of the eye due to blocked ducts. The turbinates are normal.

   Some swell so severely they appear bruised.
3. Yellowish dry crust around nasal opening. Secondary bacterial infections in the sinus is common.

CLINICAL SIGNS (CONT.)

4. Dyspnea. (Difficult breathing).

5. Offensive odor of the nasal discharge.

6. Broilers get very sleepy and may loose about 1 wk. of growth and have high condemnation rates at processing.

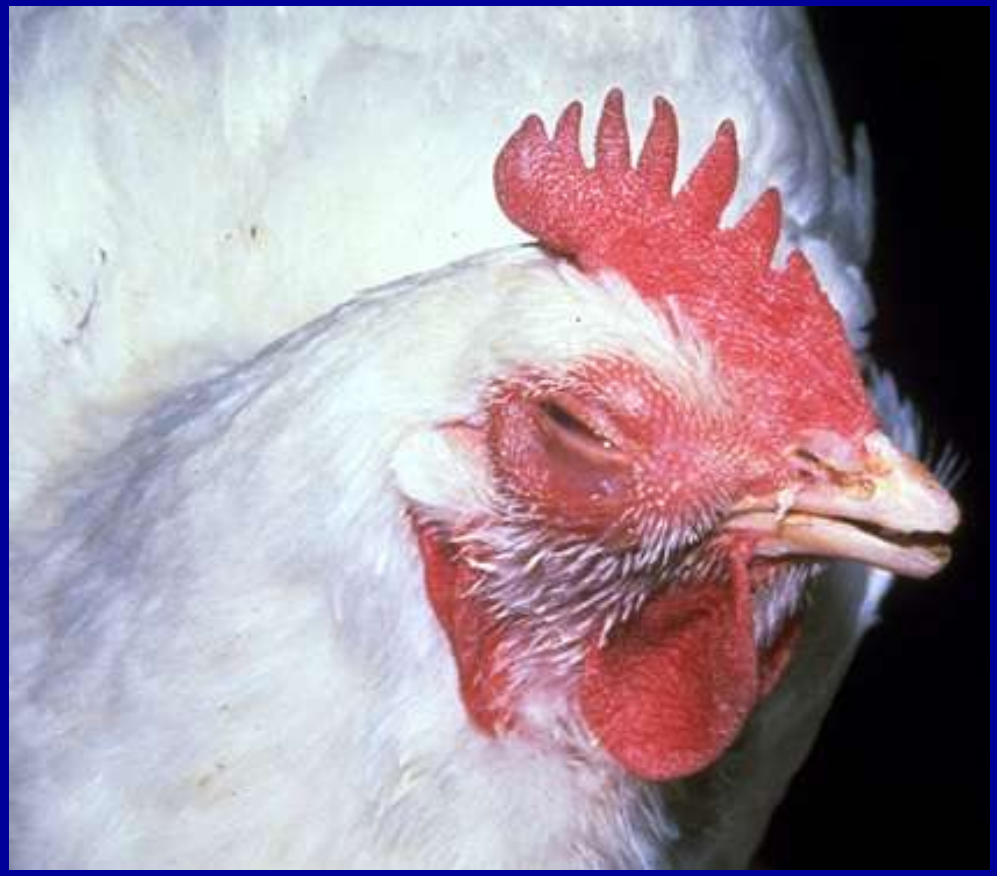
Conjunctivitis, sinusitis, nasal discharge

Conjunctivitis, sinusitis, nasal discharge

Nasal, eye exudate

Conjunctivitis

Sinusitis, conjunctivitis, nasal discharge



Sinusitis, nasal discharge

Sinusitis

Sinusitis, conjunctivitis, nasal discharge

POSTMORTEM LESIONS

1. Tenacious, white to yellow pus and mucus accumulation in the infraorbital sinus.

2. Airsacculitis in chronic cases.

Chronic sinusitis

DIAGNOSIS

- SUGGESTIVE - Fast moving respiratory disease that produces swollen faces.
- POSITIVE - Isolation and identification of causative organism. Can inject sinus exudate in susceptible chicks and get typical lesions in two or three days. It is easier to culture the organism in these birds just beginning to show signs, before other bacteria invade.

Infectious Coryza;

Sinus exudate. It's best to culture birds that have just come down with the disease before secondary bacteria can invade.

Blood agar

Cross streak with Staphylococcus. Provides V factor and NAD.

Incubate 48 hr. under 10% CO_2

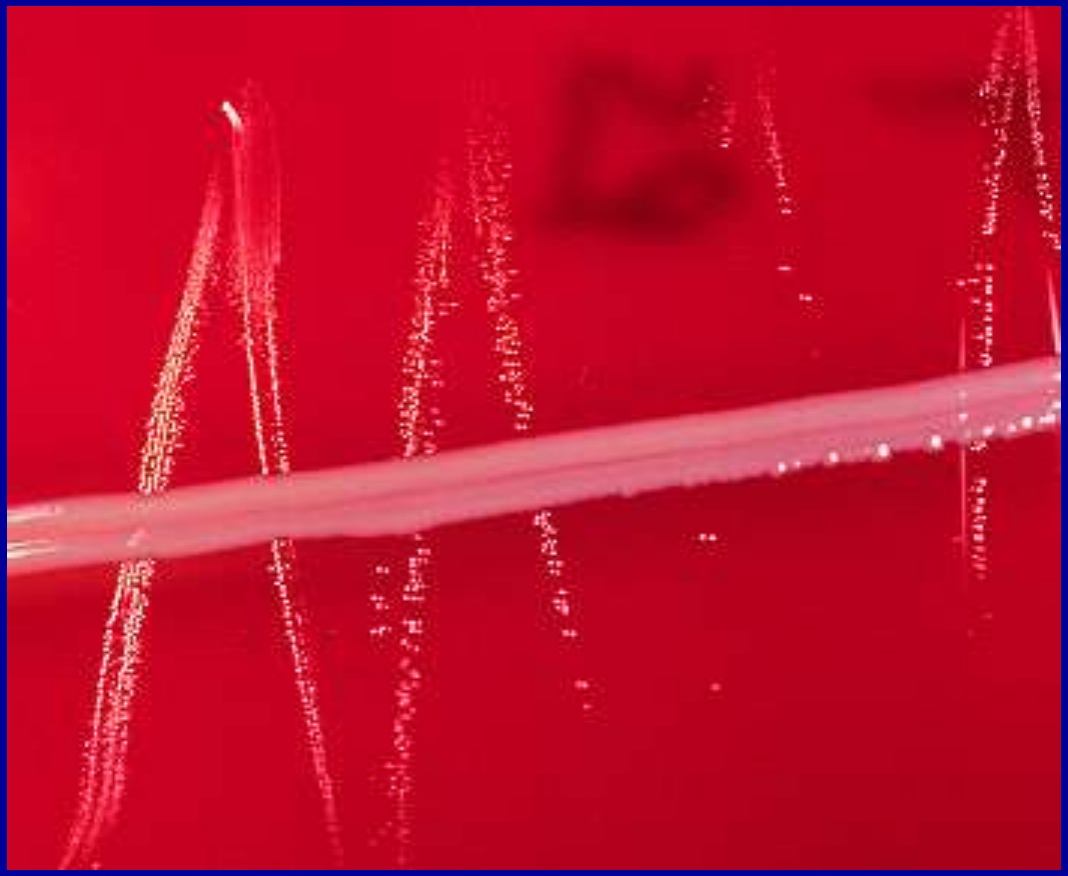
Satellite phenomenon - small colonies next to Staph streak

Gram (-) pleomorphic rod, catalase negative

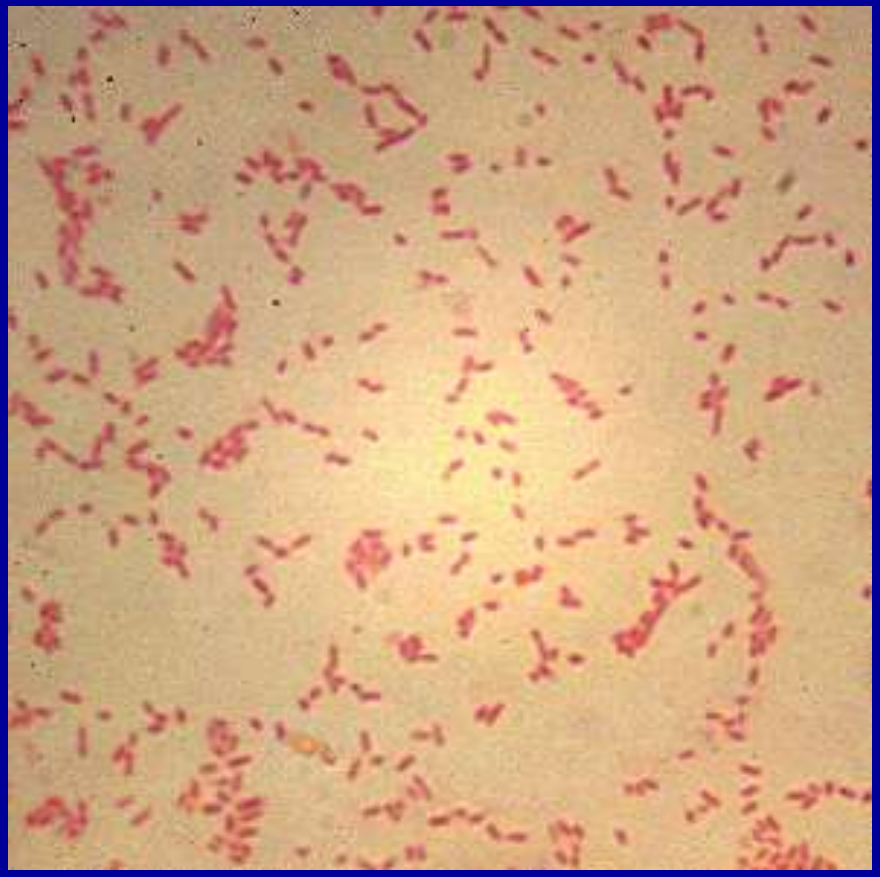
(H. avium is catalase positive, but is not pathogenic)

To improve the chance of isolation, flush the affected sinuses with saline and inject the rinsate into sinuses of health susceptible leghorns. In 3-4 days, sinus swelling should be visible. Culture these sinuses to get pure coryza.

Hemopholis colonies with nurse culture



Gram negative rods



TREATMENT (CONT.)

- Most commonly used sulfa drug at present is Sulfadimethoxine (Agribon) in the water and/or Rofenaid™ in the feed.

- Cannot use sulfa drugs in birds laying eggs for human consumption.

TREATMENT (CONT.)

- INJECT - Dihydrostreptomycin sulfate
  0.2 grams per hen.
- Sulfa drug mixtures in water.
- Erythromycin in the water at the rate of 2 grams per gallon or injected as directed on label. This drug cuts down on spread when used in the water. This allows development of immunity but still get egg production drops and carrier birds.
- Cannot use these drugs on hens laying eggs for human consumption.

PREVENTION

- Complete segregation of pullet stock from mature birds.
- All in all out farming breaks the cycle.
- If a farm is infected, you must depopulate to eradicate the disease.

PREVENTION (CONT.)

- California method - multiple age farms.
- Procure pullets at 16 wks, vaccinate with yolk bacterin, allow to become infected, treat with erythromycin or sulfa drugs, cull before they come into production. This is a common practice in the Caribbean.
- By exposing the birds as pullets, production drops associated with infection during lay can be avoided.

PREVENTION (CONT.)

- A bacterin is available, Coryza-o-vac, Solvay Laboratories, developed at UGA.
- This works well in older birds.
- Given 2 to 3 times depending on exposure situation.
- Immunity is very short lived due to adaptability of the organism.
- Japanese also produce a bacterin.
- Local bacterins produced in many countries.