ABOUT

The infectious bronchitis virus (IBV) is an avian gammacoronavirus that mostly affects chickens, while it has also been detected in pheasants and peafowl, which may be infected subclinically. The virus is found all over the world, and there are several antigenic variants that can coexist in a particular area. Some IBV kinds are ubiquitous, whereas others are only found in specific areas.

IBV is spread by aerosol, ingestion of contaminated feed and water, and contact with contaminated equipment and clothing. It is shed by infected chickens in respiratory discharges and feces, and it can be spread by aerosol, ingestion of contaminated feed and water, and contact with contaminated equipment and clothing. Virus can be transmitted sporadically for up to 20 weeks after infection in naturally infected hens and those vaccinated with live IBV. In most cases, the incubation period is 24–48 hours, with the peak in viral excretion from the respiratory tract occurring 3–5 days following infection.

SIGNS

Chicks may cough, sneeze, and have tracheal rales for 10–14 days. Conjunctivitis and dyspnea may be seen, and sometimes facial swelling, particularly with concurrent bacterial infection of the sinuses. Chicks may appear depressed and huddle under heat lamps. Feed consumption and weight gain are reduced. Infection with nephropathogenic strains can cause initial respiratory signs, then later depression, ruffled feathers, wet droppings, greater water intake, and death.

In layers, egg production may drop by as much as 70%, and eggs are often misshapen, with thin, soft, wrinkled, rough, and/or pale shells, and can be smaller and have watery albumen. Egg production and egg quality can return to normal, but this may take up to 8 weeks. In most outbreaks, mortality is approximately 5%, although mortality rates can be as high as 60% when disease is complicated by concurrent bacterial infection or when nephropathogenic strains induce interstitial nephritis in chicks. Infection of chicks may cause permanent damage to the oviduct, resulting in layers or breeders that never reach normal levels of production, so-called **false layer syndrome.**

TREATMENT

No medication alters the course of IBV infection, although antimicrobial therapy may reduce mortalities caused by complicating bacterial infections. In cold weather, increasing the ambient temperature may reduce mortalities, and reducing the protein concentrations in feed and providing electrolytes in drinking water may assist in outbreaks caused by nephropathogenic strains.

The live-attenuated vaccines used for immunization may produce mild respiratory signs. These vaccines are initially given to 1- to 14-day-old chicks by spray, drinking water, or eye drop, and birds are commonly revaccinated approximately 2 weeks after the initial vaccination. Revaccination with a different serotype can induce broader protection. Attenuated or adjuvanted inactivated vaccines can be used in breeders and layers to prevent egg production losses as well as to pass protective maternal antibodies to progeny.