
Newcastle disease (ND)

Newcastle disease (ND) is categorised by the Office International des Epizooties (OIE) as a list A transmittable disease of poultry (Alexander, 2000). A major epidemic of Newcastle disease (ND) in different parts of the world had caused massive economic losses in poultry. The first epidemics of Newcastle disease (ND) in poultry was in 1926, in Java, Indonesia (Kranefeld, 1926), and in Newcastle-upon-Tyne, England in 1927 (Doyle, 1927). However, there are prior reports of similar disease outbreaks in Central Europe before this date (Halasz, 1912). According to Macpherson (1956), the death of all the chickens in Western Isles of Scotland in 1896 was caused by Newcastle disease. Therefore, there is a high probability that ND occurred in poultry before 1926, but its recognition as a specifically defined disease of viral aetiology dates from the outbreaks in Newcastle-upon-Tyne.

The name Newcastle disease, was recommended by Doyle to a highly pathogenic disease discovered in chickens in a farm near Newcastle upon Tyne. Doyle considered the name as a temporary measure because he wanted to avoid a descriptive name that might be mistaken with other diseases (Doyle, 1935). However, no better name has evolved over the past 84 years in spite of the fact that the synonym avian paramyxovirus type 1 (APMV-1) ended up to be noticeably prominent in recent years (Alexander, 1988).

Later, it was clear that other less severe infections were caused by viruses almost identical to NDV. In the United States, a relatively mild respiratory disease often with nervous symptoms, termed pneumoencephalitis was first reported in the 1930s (Beach, 1942). It was proven to be caused by a virus indistinguishable from NDV in serological tests (Beach, 1944). Since then, many NDV isolations of viruses that produce a tremendously mild disease or no evidence of disease in chickens, have been made around the world and it is now accepted that pools of such viruses are perpetuated in waterfowl and other wild birds (Alexander, 1988).

The spreading of the disease was caused by the development of the world poultry industry and the commercialisation of poultry food production both of which lead to greater contact between different farms because food delivery vehicles move from one to another. Another reason is the advancement that has occurred in world transport. Many considered the disease was spread to England in 1927 due to transportation to the port of Newcastle upon Tyne from South East Asia by ship, either in frozen meat or as a result of the practice of keeping live chickens on board for eggs and meat. Besides, air transportation has led to a huge and growing trade in captive caged birds (Alexander et.al, 2004). The imported caged birds were responsible for introducing the ND into poultry in California (Francis, 1973) and (Walker et.al, 1973) were able to link most of the outbreaks occurring in the USA during 1970-1972 due to importations of exotic birds.