

Review Article

Clinical Medicine and Surgery

Evolutionary Occurrence of Different Diseases in Animals through Viral & Bacterial Infections and Preventive Measures

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Abstract

Animal diseases can easily be transmitted into human by some causative agents and it has great economic losses in the universe. Fowl Cholera is a chronic disease caused by *Pasteurella Multocida* which basically effects the joints, wattles, infraorbital sinuses and other tissues. Fowl Cholera disease is transmitted by discharges from the carrier birds, cannibalism of the dead birds or infected droppings, as well as by dirty feedstuff, equipment, clothing, water. Infectious Bronchitis disease is widely spread disease and it causes serious deaths in flock and it covers half of flock in minimum duration of time. Capri poxvirus is a viral disease and it has three different mode of infection which effects on ruminants such as sheep pox, the goat pox and the lumpy skin disease. Capripoxvirus has several modes of transmission in living organism through mating, aquatic life animals and from animal to animal which causes necrotic lesion or death of tissues in chronic cases of virus. Sheep pox and goat pox are diseases of small ruminants with contagious viral infections. This viral disease has harmful impacts on sheep and goats in endemic areas. Lumpy skin disease (is actually skin problems created viral disease which mostly shows infection in cattle and water buffalo. Rift Valley fever (RVF) is a viral zoonosis which effects animal at initial stage and then have capability to transmit in humans.

Keywords: Animal diseases, Capri poxvirus, Rift Valley fever, virulence factors.

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INTRODUCTION

Animal diseases have great concern to diseases due to contacts of human in earliest time and it has different views about religion and magic. Animal diseases can easily be transmitted into human by some causative agents and it has great economic losses in the universe. Veterinary medicine is the branch which deals with the study of domestic animals, wildlife animals and animal which are kept for scientific research purposes [1-3]. Eradication of diseases, prevention and control is necessary for proper agricultural concern. The programs in which disease transmits from animal to human called zoonoses which especially relates to pets, and wildlife animals with association to human health. Animal proteins deficiency in human diet has great

concern now days and becomes public health problem throughout the world [4-5].

There are different types of infections which may be bacterial, viral and fungal and these infectious diseases are more common in poultry and they can easily be transmitted from bird to bird and causes significant loss in our bird's community and it basically effects the intestinal, nervous, respiratory, immune and reproductive system also spreads different types of skin problems in birds. It is necessary to adopt precaution when you observe symptoms in your poultry farm which might be proven great loss in future to isolate the infected bird from flock and protects others should be in your first option to protect from infectious disease which might be viral, fungal and bacterial type [6-8].

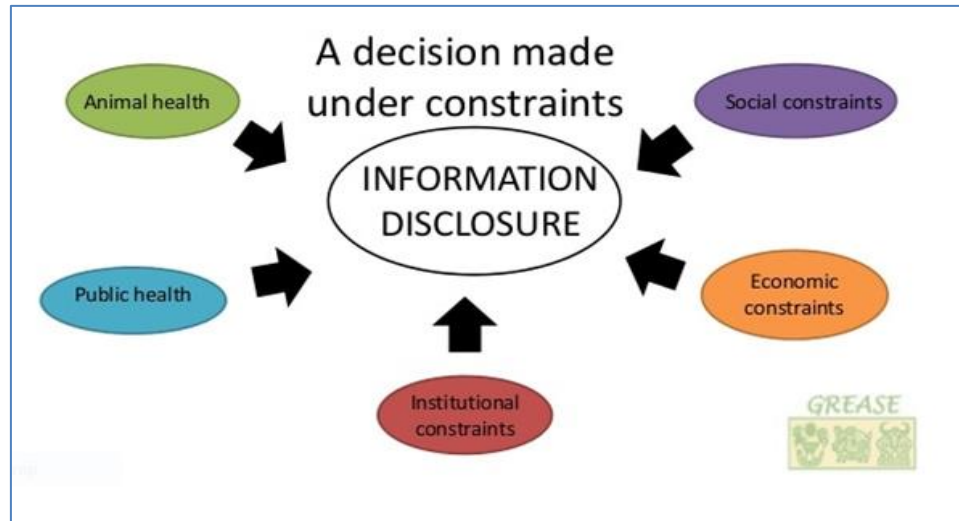


Fig-1: Shows the factors for enclosing the diseases in animal

Different diseases in animals and preventive measures

Fowl Cholera is a chronic disease caused by *Pasteurella Multocida* which basically effects the joints, wattles, infraohits, sinuses and other tissues. Symptoms appears due to this disease are includes loss of appetite, diarrhea with a greenish tinge, ruffled feathers, swollen purple wattle, swollen comb, swollen joints, lameness, oral, nasal and ocular discharge and sudden death. Some adjuvant bacterins are used to prevent from disease and it is effective way to escape from disease. It contains serotypes which actually present in vaccine which inoculates to organisms to prevent from loss. Secondary invader which causes serious damage in tissues and joints called *P. Multocida* and precautionary measure should be use to prevent from this infectant which causes fowl cholera [9-11].

Fowl Cholera disease is transmitted by discharges from the carrier birds, cannibalism of the dead birds or infected droppings, as well as by dirty feedstuff, equipment, clothing, water. The wild animals and birds like opossums, cats, raccoons, rodents, pigs, and dogs may anchorage the disease and assist as reservoirs of the infection which aggressively spread disease. Because of variances in species sensitivity to various strains of Causative agent, fowl-cholera is not regarded a high-risk illness for the humans. *Pasteurella multocida* signs of infection in humans, on the other hand, are not unusual and are frequently caused by bite of an infected animal particularly from pet animals. In humans, signs of *Pasteurella* diseases include tendon infection at the wound area, which can lead to the soft tissue abscess development, osteomyelitis and septic arthritis, as well as ophthalmic and lung infections. Pneumonia, intra-abdominal, meningitis, and septicemia infections are more uncommon, but not impossible [12-15].

There are different medication to treat this disease in your breeding flocks and hens laying eggs like intramuscular injection as vaccine and tetracycline antibiotic which mix in the water and kept water bowl in the flock to prevent from disease. This treatment will be effective when use simultaneously. Mortality rate and sign of symptoms in the flock can be reduces up to widely limits in one week but bacteria remain in the flock which can damage and causes infection in future. Infectious Bronchitis disease is widely spread disease and it causes serious deaths in flock and it covers half of flock in minimum duration of time. This infection spread in raising chickens and we observe symptoms when our chickens begin sounds like sneezing, snoring, and coughing. Water drainage begins from their nose and eyes which latterly shows coughing and sneezing. Watery type albumin, poor quality of egg and egg shell, ruffled feather and dropping of wet dropping are seen in laying eggs. It poses significant reduction in weight and number of chickens in flock [13-16].

Medication cannot alter the course of IBV infection; however, antimicrobial therapy can reduce mortalities causes by bacterial infections. Rising in ambient temperature in cold weather can cause reduction in mortalities and reduction in proteins concentrations causes remarkable death which actually caused by nephron-pathogenic strains. It shows symptoms like nasal discharge, coughing and rales. It imposes reduction in meet quantity and quality of eggs. Disease actually is a sign for reduction in each and every aspect within living organism. Avian influenza is a disease which spread through infection with avian influenza type A viruses. This group of virus founds naturally in aquatic birds and it can cause infection in domestic animal worldwide. It also effects on poultry and wildlife animals. Birds testing positive with this virus classified into hemagglutinin and neuraminidase subtype based on hemagglutinin inhibition and neuraminidase inhibition tests, respectively [17-20].

Control and monitoring through different strategies with influenza virus is mandatory to decrease viral impact on species and in the environment. Biosecurity measures, should be implements to control the virus for the production and reforms in flock. This influenza virus has potential to occupied the whole flock within few days and necessary measures should be use to keep away this virus from flock. Influenza virus has negative impacts on biosecurity and food chain because it imposes harms in human beings through use of infected chickens. Vaccine inoculation before virus infection is necessary to avoid from harmful effects of influenza virus on food chain and in the environment. It poses remarkable reduction in trading, and farmers output which results in economy loss by government [21-24].

Capri poxvirus is a viral disease and it has three different mode of infection which effects on ruminants such as sheep pox, the goat pox and the lumpy skin disease. Ovine and caprine species shows pathogenic effects in sheep and goat pox viruses in natural conditions. In natural conditions. In fact, sheep pox and goat pox viruses are actually host specific viruses but in rare cases it has results for effecting both species in the ecosystem.

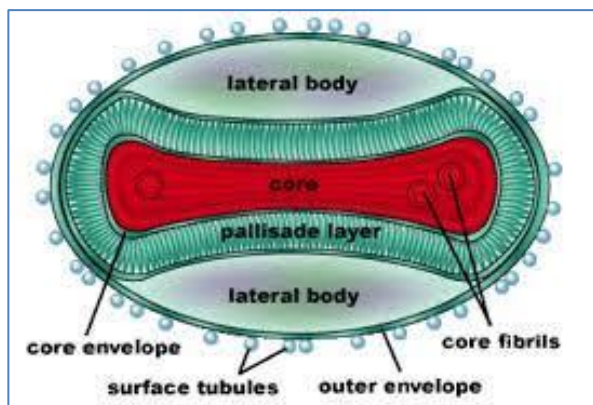


Fig-2: Shows the structure of the Capri poxvirus

Capropoxvirus has several modes of transmission in living organism through mating, aquatic life animals and from animal to animal which causes necrotic lesion or death of tissues in chronic cases of virus. This virus shows symptoms when it covers half of the group of animals and it shows necrosis and mouth lesions in sheep and goat [25, 26].

Sheep pox and goat pox are diseases of small ruminants with contagious viral infections. This viral disease has harmful impacts on sheep and goats in endemic areas. It spread with fast and furious strain which often effects the newly born animal from infected sheep and goats. This virus imposes variety of economic losses such as reduction in milk production, quality of hides and wools and other productive losses with different aspects to sheep and goat. It becomes

epidemic in endemic regions due to which livestock management faces different problems to solve this disease. Mutation was carried out in the sheep and goat species to produce virus free breed though changing in genetic makeup of cells [27, 28].

Sheep pox and goat pox is transmitted in animals by their direct interaction with the diseased animals or in-directly by the polluted objects (fomites) like footwear or clothing. The viruses are also existing in the respirational-aerosols and may spread by the close connection and by the insects. Lumpy skin disease (LSD) is actually skin problems created viral disease which mostly shows infection in cattle and water buffalo. This disease actually poses harmful effects on skin of infected organism. It has great economic losses because it creates skin problems which basically deteriorate the quality and beauty of organism. It shows symptoms like lesions on body, hair removal and infection on injured part which becomes epidemic after certain period of time. It also shows reduction in milk quantity, fever, unwilling to eat and severe weight loss which causes decline in prices of sheep and goat in trading market. Important instruction by veterinarian should be follows to avoid the harmful impacts of virus in the sheep and goat farm. It originates from African's continent and shows epidemic results in Middle East Asia [28, 29].

For LSD, there seems to be no potential therapeutic treatment is available. Sick animals could be separated from the flock and treated with supportive care, such as a skin wound bandage, to reduce fly anxiety and avoid contaminations. Skin cellulitis, and pneumonia may require systemic drugs, and food and water should be easily accessible. In an effort to minimize further spread, local treatments of insecticides to affected cattle have been undertaken, but with little obvious benefit [30, 31].

Rift Valley fever (RVF) is a viral zoonosis which effects animal at initial stage and then have capability to transmits in humans. It shows symptoms like fever, listlessness, anorexia, disinclination to move, abortions, and high morbidity and mortality rates in neonatal animals. RVF is a genetically disorder which occurs due to zig-zag sequence in primarily forms RNA bases in the genome. This disease causes serious damage in animal production and it results in epidemic situation after consisting from generation to generation [1,8,9].

A lot of human illnesses are caused by coming in contact with the infected animals' blood or animal organs. Humans may carry the virus by handling animal meat during slaughtering or butchering, intervening during the animal births, performing the veterinary operations, or disposing of carcasses or fetuses. As a result, certain occupations, such as

herdsmen, farmers, slaughtering workers, and veterinarians, are more susceptible to infection. The liver is major location for the replication of RVFV, it is typically involved early in a severe RVFV-infection. Within first three weeks of severe hepatotropic illness, liver-failure and jaundice may ensue [8, 16, 19].

CONCLUSION

Severity is defined by palpable-enlargement, tenderness, and a threefold increase in the transaminases. Jaundice was found to be linked to a higher mortality rate on its own. Acute hepatitis can be complicated by longer blood - clotting times, and it can happen at the same time as or before fatal hemorrhages or neurologic sequelae.

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