

**P1404**

**Paper Poster Session**

**Influenza - clinical epidemiology**

**Molecular and serological detection of H5N1 avian influenza viruses in poultry and ducks from Bangladesh**

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**Background:** Avian influenza viruses are responsible for several epizootics and pose a continuous threat to humans and animals globally. Waterfowls are the main reservoir of these viruses and responsible for the spillover of AIVs to other hosts. Surveillance programs are important to monitor the occurrence of different subtypes among different populations. The present study hereby reports the serological evidence and molecular detection of H5N1 subtype of avian influenza from chickens from backyard poultry, live bird markets, and farms as well as domestic duck samples from different locations in Bangladesh.

**Material/methods:** A total of 6,228 samples consisting of cloacal (n = 2169) and oropharyngeal (n = 2191) swabs, and blood samples (n = 1868) from live bird markets chickens, backyard poultry, broilers, layers, and ducks from several locations in different districts in Bangladesh. Cloacal and oropharyngeal samples were screened for the presence of influenza A viruses nucleoprotein rapid antigen test. Positive C and OP samples were tested for live viruses using virus isolation methods. Positive samples were subtyped using molecular methods of conventional RT-PCR. Serum samples from vaccinated and unvaccinated chicken and ducks were screened for antiH5N1 antibodies using ELISA methods

**Results:** Forty one (0.94%) samples were positive for influenza A viruses. Thirty one samples could be subtyped and were found H5N1 and 21 H5N1 live viruses were isolated. It was found that 545 (34%, 545/1603) serum samples were found positive for H5 Ab. Alarmingly, analysis of 221 serum samples collected from vaccinated birds in four districts revealed that only 18 samples (8.14%) were seropositive for anti H5 antibodies, compared to unvaccinated birds (n = 105), where 8 samples (7.61%) were seropositive.

**Conclusions:** Surveillance of AIVs from poultry is critical to monitor the situation of circulating subtypes of AIVs. Continuation of AIV surveillance programs should help understand the epidemiology and ecology of AIVs and will provide clear and comprehensive picture. The vaccination program as currently should be reviewed and updated. The current surveillance study of AIV in poultry represents a recent research effort for monitoring the emergence of AIVs in Bangladesh to help protect humans from avian influenza epidemics of poultry origin. Results highlights the continuous importance of surveillance and detection of Influenza subtypes circulating in wild birds and poultry for early detection and appropriate implementation of control measures.