



EDITORIAL

Years of Epidemics (2009–2011): Pandemic Influenza and Foot-and-Mouth Disease Epidemic in Korea

Between 2009 and 2011, Korea has witnessed two major epidemics, namely, the influenza A/H1N1 pandemic in 2009–2010 and the foot-and-mouth disease (FMD) epidemic in 2010–2011. Although these two epidemics are consecutive, the former was reported in human beings and the latter in animals.

Experts at the Korea Centers for Disease Control and Prevention (KCDC) have studied various mathematical and statistical models to predict the incidence of infectious diseases including vector-borne and chronic diseases [1–5]. In this regard, the KCDC has proposed a systematic and evidence-based preparedness and response plan against a possible pandemic influenza outbreak along with the estimated parameters [6]. It has also estimated the possible scale of infection based on the number of influenza-like illness in the reported cases [7].

In this issue, experts at the Animal Plant and Fisheries Quarantine and Inspection Agency in Korea have summarized the 2010–2011 foot-and-mouth epidemic in Korea. The authors have used the data on farm demography, the detection date of FMD, the clinical history for the manifestation of lesions, the presence of antibodies against the FMD virus (including antibodies against the structural and nonstructural proteins of serotype O), vaccination status, the number of reactors, and information on the slaughter of infected animals. They determined a cumulative detection probability of identification of an infected farm on a specific day, based on estimates of the most likely infection date. They summarized that the peak infection was observed between late December and early January, whereas peak detection occurred in mid-January. The early detection probability was highest for pigs, followed by cattle (dairy, then beef) and small ruminants. Approximately 90% of the infected pig farms were detected by day 11 postinfection, whereas 13 days were

required for detecting infections in both dairy and beef cattle farms, and 21 days were necessary for detecting infections in small ruminant (goat and deer) farms. On average, 8.1 (standard deviation = 3.1) days passed since an infection outbreak before detecting the presence of FMD virus on a farm. The interval between infection and detection of FMD was inversely associated with the intensity of farming. The results of this study emphasize the importance of intensive clinical inspection, which is the quickest method of detecting FMD infection and minimizing the damage caused by an epidemic.[8].

These two epidemics have provided valuable data to adjust the existing models and the experts could be well prepared for the next possible epidemics in Korea.

References

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