

ISAH webinar: COVID-19–Hygiene & strategies to prevent future epidemics

Key note speaker: Dr. Gilles Salvat



Dr. Gilles Salvat,
Managing Director
General for Research,
Anses,
France



Role of animals & hygiene in the COVID-19 pandemic

Gilles Salvat is Deputy general director of Anses in charge of research and reference and Scientific director of animal health and welfare

Dvm & PhD, more than 30 year experience in management of scientific teams.

Scientist and expert on food microbiology and animal health and welfare.

Specialist on crisis management and risk assessment in veterinary public health and zoonosis.

More than 100 peer reviewed papers, and 250 conference and posters, HI : 31



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Key words of the talk: *(free of choice)*

- Animals: a potential reservoir of SARS-CoV-2?
- Domestic Animals
- Wildlife
- Food products and packaging
- Clusters in meat plants
- Improve surveillance of variants
- Possible adaptation of SARS-CoV-2 : which animal candidates.
- Improve surveillance systems

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ANIMAL HEALTH & WELFARE
FOOD SECURITY
ENVIRONMENTAL PROTECTION
SUSTAINABILITY OF ANIMAL HUSBANDRY

Abstract

As SARS-CoV-2 probably emerged from wildlife *Rhinolophus* bats with a possible intermediate mammal host, questions about the possible role of domestic animals as COVID-19 reservoirs and of food as a possible source of transmission early occurred both in public opinion and scientific teams. In order to assess such risks of transmission from human to animal and reverse and on the possible role of food in disease transmission, Anses published and regularly actualized scientific opinions on these topics since the 9th of March, 2020. Regarding the receptivity and sensitivity of animals to SARS-CoV-2 infection, the animal health surveillance platform (www.plateforme-esa.fr) published regularly updated informations about what is known on COVID-19 and animals. Due to their vicinity to humans, primates are receptive and sensitive to SARS-CoV-2. At this date, even if cats and dogs are considered as receptive species, symptoms associated with their infection are generally poor (mild respiratory syndrome, sometimes myocarditis with UK VOC), they are considered as epidemiological dead ends as no transmission to humans have been documented soon. Regarding breeding wildlife species, infection of fur minks (*Neovison vison*) is of great concern as contaminations of mink flocks in the Netherlands and in Denmark were associated with spillover to humans, passages in mink population selecting variants of SARS-CoV-2 able to escape to immune system and vaccination. Stamping out of mink rearing farms was achieved in those two countries and surveillance system were in place in many european countries. Many other mustelids like ferrets badger ferrets, are receptive and sensitive to the virus but also rodents like golden hamster (*Mesocricetus auratus*) (ferrets and golden hamster are studied as animal models) or canidae like raccoon dog (*Nyctereutes procyonoides*). Other farming species are not considered as receptive and sensitive to SARS-CoV-2 but comments will be given on experimental studies on these species. Nonetheless, surveillance systems should be implement to provide information about a possible adaptation of SARS-CoV-2 to new reservoir animals following the emergence of adaptative mutation to a variety of ACE2 receptors.





ANIMAL HEALTH & WELFARE
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Abstract – con't

Possible transmission of SARS-CoV-2 via oral route is considered to be unlikely, but the virus could survive many days on packaging and many months on frozen food. If indirect contamination via this route is possible in theory, it is considered unlikely. Clusters of human contamination occurring in abattoirs and processing plants all over the world at the beginning of the pandemic were certainly associated with working conditions of the employees. Working close to each other, most of the time without masks, masks being less efficient due to humidity and cold, in a cold and humid atmosphere enhanced survival and spreading of infective virus particles.

