Published Date: 2022-01-19 12:48:25 CET

Subject: PRO/AH/EDR> COVID-19 update (23): animal, China (Hong Kong) hamster, public health hazard

Archive Number: 20220119.8700956

CORONAVIRUS DISEASE 2019 UPDATE (23): ANIMAL, CHINA (HONG KONG) HAMSTER, PUBLIC HEALTH HAZARD

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A ProMED-mail post
http://www.promedmail.org
ProMED-mail is a program of the
International Society for Infectious Diseases
http://www.isid.org

Date: Tue 18 Jan 2022 6:11 a.m. PST
Source: Reuters [edited]
https://www.reuters.com/world/china/hong-kong-orders-hamster-cull-after-covid-19-hits-pets-2022-01-18/

Hong Kong warned people not to kiss pets and ordered a mass cull of hamsters on Tuesday [18 Jan 2022], to the outrage of

animal-lovers, after 11 of the rodents tested positive for COVID-19. A recent coronavirus cluster in humans traced to a pet shop worker prompted checks on hundreds of animals in the Chinese-ruled territory, with 11 hamsters found infected, officials said. Echoing the [Chinese] mainland's zero-tolerance policy even as much of the world shifts to living with COVID, Hong Kong ordered 2000 hamsters "humanely" put down, and imports and sales stopped. Various pet shops were shuttered and disinfected around the city, while men in protective gear scoured the store at the heart of the cluster in the bustling Causeway Bay district.

The local Society for the Prevention of Cruelty to Animals, which runs veterinary clinics, urged a rethink. "The SPCA is shocked and concerned over the recent government announcement on the handling of over 2000 small animals, which did not take animal welfare and the human-animal bond into consideration," it said.

Health secretary Sophia Chan told a news conference authorities were acting out of caution even though there was no evidence domestic animals can infect humans. "Pet owners should keep a good hygiene practice, including washing hands after touching the animals, handling their food or other items, and avoid kissing the animals," Agriculture, Fisheries and Conservation Department director Leung Siu-fai Leung also told reporters.

Hong Kong has also been testing rabbits and chinchillas but only the hamsters were positive. They were all imported from the Netherlands, according to local broadcaster RTHK. Around the world, there have been coronavirus cases in dogs and cats too, though scientists say there is no evidence animals play a major role in human contagion. Leung said the Hong Kong hamsters had to be put down as it was impossible to quarantine and observe each one. Buyers of hamsters after 22 Dec 2021 should hand them to authorities for culling and not leave them on streets, he added. A hotline for enquiries was being set up, while some 150 of the pet shop's customers were going into quarantine, officials said.

Last September, three pet cats that tested positive for coronavirus were put down in the Chinese city of Harbin, bringing a social media backlash. Elsewhere, Denmark culled millions of mink in 2020 to curb COVID-19 mutations. And some Russian regions have inoculated animals against COVID-19 after Moscow said it had registered the world's first vaccine for animals following tests with dogs, cats, foxes and mink.

Nikolaus Osterrieder, dean of the Jockey Club College of Veterinary Medicine and Life Sciences at the City University of Hong Kong, said human-to-animal-to-human transmission chains are rare but do happen as with mink cases. "It is obviously a drastic measure but one that is a consequence of zero Covid (rules)," he said of Hong Kong's moves. "Hamsters are very susceptible to SARS-CoV-2 and can produce large amounts of virus."

Global welfare group World Animal Protection said the measures were premature. "Culling animals should always be a last resort and we encourage governments to explore other options, such as quarantine, first," said research head Jan Schmidt-Burbach.

After three months without any local transmission, Hong Kong has seen dozens of new coronavirus cases in humans this year, triggering fresh curbs on flights and social life. Thousands of people have been sent to a makeshift government quarantine facility. Most of the new cases are of the highly-contagious new omicron variety, though the cluster traced to a pet shop worker was delta.

[byline: Marius Zaharia and Farah Master]

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communicated by:
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[A recent study (ref 1) demonstrated efficient transmission of SARS-CoV-2 between (experimentally infected) Syrian hamsters via aerosol particles over a 200 cm distance [about 6.6 ft]. The study involved 2 SARS-CoV-2 variants, lineage A and alpha (B.1.1.7.). Aerosol transmission of both variants was confirmed in all sentinel susceptible hamsters after 24 hours of exposure. Productive transmission occurred also after one hour of exposure, highlighting the efficiency of this transmission route. After donors were infected with a mix of both variants, the alpha variant outcompeted the lineage A variant in an airborne transmission chain, indicating that a lower infectious dose of the alpha variant, compared to lineage A, could be sufficient for successful transmission.

A recent WHO-expert-committee review (ref 2) titled 'Advances and gaps in SARS-CoV-2 infection models' addressed the key role animal model research is playing to evaluate the virulence of VOC (variants of concern), transmission and immune escape, and how animal models are being refined to recapitulate COVID-19 demographic variables such as comorbidities and age. The reviewed experiments involved the following (5) animals: non-human primates, K18-hACE2 mice, wild-type mice, hamsters, and ferrets. The hamster model has emerged as the one that more closely recapitulates moderate disease in humans. Hamsters not only develop respiratory disease after SARS-CoV-2 infection, but also display some other important clinical hallmarks in patients such as anosmia, neurotropism, vascular inflammation, and rapid weight loss. Pathological examination of infected hamster lungs shows evidence of severe interstitial pneumonia with high levels of bronchoalveolar damage and inflammation. Figure 1 in the paper, 'SARS-CoV-2 animal models' summarizes findings related to virulence, transmission, and cross-protection recorded in the 5 animal models, in relation to each of the 4 tested VOC's: alpha, beta, gamma, and delta variants. The figure is available at https://journals.plos.org/plospathogens/article/figure?id=10.1371/journal.ppat.1010161.g001.

The above papers, and the current hamster epizootic in Hong Kong, highlight the continuous need to assess the pathogenicity and transmission potential of SARS-CoV-2 emerging variants, including omicron, and underline the potential hazard presented by the exposure of other mammals, including humans, to COVID-19-diseased hamsters. - Mod.AS

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ProMED map of Hong Kong: https://promedmail.org/promed-post?place=8700956,198.]

See Also

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COVID-19 update (413): animal, Canada, wild deer 20211202.8700020
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COVID-19 update (373): animal, USA, wild deer, transmission 20211102.8699412
COVID-19 update (276): animal, Poland, mink, research 20210811.8587558
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COVID-19 update (551): animal, pig, research, experimental infection 20201223.8041877
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COVID-19 update (450): animal, cattle, research, experimental infection 20201022.7883213
COVID-19 update (448): animal, raccoon dog, research, experimental infection 20201022.7880283
COVID-19 update (71): animal, mink, WHO/FAO/OIE risk assessment 20210218.8200008

2020

COVID-19 update (520): Denmark, Netherlands, mink, human-animal interface, WHO 20201204.7994061
COVID-19 update (516): China (Hong Kong) animal, dog, Lithuania, mink, OIE 20201203.7986508
COVID-19 update (387): Netherlands, mink, animal & public health, research 20200902.7740793
COVID-19 update (374): animal, ferret, research, epidemiology 20200825.7715862
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COVID-19 update (330): China (Hong Kong) animal, cat, OIE 20200724.7609215
COVID-19 update (280): animal, pangolin, research 20200623.7502805

COVID-19 update (267): animal, domestic, wild, cat, research 20200617.7480013
COVID-19 update (227): animal, cat, dog, research, experimental infection 20200601.7416648
COVID-19 update (189): Netherlands (NB) animal, farmed mink, research, cat, dog 20200517.7344274
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COVID-19 update (57): animal China (Hong Kong) dog, OIE 20210210.8182259
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