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Subject: PRO/AH/EDR> COVID-19 update (519): Switzerland (ZH) animal, cat, OIE

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CORONAVIRUS DISEASE 2019 UPDATE (519): SWITZERLAND (ZURICH) ANIMAL, CAT, OIE

A ProMED-mail post

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Date: Thu 3 Dec 2020

From: Regina Hofmann-Lehmann <rhofmann@vetclinics.uzh.ch> [edited]

Subject: 1st cat in COVID-19 household in Switzerland testing SARS-CoV-2 RT-PCR positive

Two tomcats from the Swiss canton of Zurich were tested within a research project at the Clinical Laboratory of the Vetsuisse Faculty (VSF) of the University of Zurich (UZH), Switzerland, to further explore SARS-CoV-2 infections in a One Health context. The researchers investigate on potential transmission pathways and animal reservoirs of SARS-CoV-2 as a basis for risk assessment and to convey evidence-based guidelines on infection prevention and control (IPC) measures at the animal-human interface.

The owners of the 2 tomcats had been quarantined after showing respiratory symptoms and subsequently tested positive for SARS-CoV-2 by RT-qPCR on 2 Nov 2020. They own 2 tomcats, of which one (cat 1) also demonstrated signs of an upper respiratory infection, including sneezing, inappetence and apathy. The cat was thus presented to a private practitioner, who collected a blood and serum sample for routine diagnostic purposes on 10 Nov 2020. The cat was not tested at that time for SARS-CoV-2 infection. The 2nd cat (cat 2) was asymptomatic.

Thereafter, the owners contacted the researchers at the Clinical Laboratory (VSF, UZH), and nasal, oral, fecal and fur swab samples were collected from both cats on 16 Nov 2020 and tested by RT-qPCR for SARS-CoV-2 viral RNA. The nasal swab of cat 1 tested positive (E and RdRp genes). In addition, the oral swab of cat 2 and fur swabs of both cats tested low positive. A further nasal swab collected from cat 1 on 19 Nov 2020 tested again RT-qPCR positive. The clinical condition of cat 1 had already improved at that time. Moreover, the serum sample collected from cat 1 on 10 Nov 2020 tested positive for antibodies to RBD of SARS-CoV-2 S1, and neutralizing activity was demonstrated in this sample. The molecular results of cat 1 were confirmed by the Institute of Virology and Immunology (IVI; Mittelhausern, Switzerland) and the Friedrich Loeffler Institute (FLI; Greifswald - Insel Riems, Germany); the FLI also confirmed the positive serological and neutralization results of cat 1. Further molecular and epidemiological investigations are ongoing. However, the data collected so far indicate that this is the 1st report of a SARS-CoV-2 infection in a cat from Switzerland.

The Swiss government does currently not recommend to test cats for SARS-CoV-2 except for research purposes that increase current knowledge in the field. COVID-19 is a human disease. The main route of transmission is human to human. SARS-CoV-2 infections have been reported rarely in cats.

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[COVID-19 infections in domestic cats, identified by PCR or serologically, have been reported so far from Belgium, France, Hong Kong, USA, China, Germany, UK, Spain, Netherlands, Russia, Japan, Chile, Brazil and Argentina. Most of the said countries reported their observations to the OIE (table and map at <https://www.oie.int/scientific-expertise/specific-information-and-recommendations/questions-and-answers-on-2019novel-coronavirus/events-in-animals/>).

Clinical signs may vary in their severity, or cases may be asymptomatic. In contrast with cats, infected dogs are mostly asymptomatic.

All described cases in domestic, kept cats so far are known to have been caused by contact with cohabiting COVID-19 human patients. It may be assumed that similar human-to-cat infections occur wherever cats are kept indoors in close proximity with human patients. Infections of wild felines in captivity have been described as well.

So far, no cat-to-human infection has been recorded. In the Netherlands, mink-to-cat infection was suspected. In an experimental infection trial setting, cat-to-cat infection, over short distance, has been described. - Mod.AS

This case was reported from Switzerland to the OIE. The OIE report can be accessed from the following link: <https://tinyurl.com/y5m9qxqx>. - Mod.CRD

HealthMap/ProMED-mail map:

Zurich, Switzerland: <https://promedmail.org/promed-post?place=7993204,27451>]

See Also

COVID-19 update (506): Argentina (BA, SE) animal, cat, dog, OIE 20201125.7972283

COVID-19 update (495): animal, cat, transmission model 20201119.7954363

COVID-19 update (463): Brazil (MT) animal, cat, OIE 20201031.7905784

COVID-19 update (452): Chile (RM) animal, cat, OIE 20201023.7885452

COVID-19 update (350): USA (TX) animal, cat 20200808.7658191

COVID-19 update (345): animal, cat, research, experimental infection 20200805.7648370

COVID-19 update (334): animal, Netherlands, mink, spread, UK, cat, 1st rep, OIE 20200727.7617582

COVID-19 update (330): China (Hong Kong) animal, cat, OIE 20200724.7609215

COVID-19 update (267): animal, domestic, wild, cat, research 20200617.7480013

COVID-19 update (248): Netherlands (NB, LI) animal, mink, spread, culling, cat 20200609.7446478

COVID-19 update (238): USA (MN) animal, cat 20200605.7429133

COVID-19 update (227): animal, cat, dog, research, experimental infection 20200601.7416648

COVID-19 update (212): Russia (Moskva) animal, cat, OIE 20200526.7379578

COVID-19 update (209): Netherlands (NB) farmed mink, animal-to-human, cat, epid 20200525.7375359

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COVID-19 update (189): Netherlands (NB) animal, farmed mink, research, cat, dog 20200517.7344274
COVID-19 update (183): Japan/USA, animal, research, cat, experimental infection 20200514.7337185
COVID-19 update (181): Germany (BY), France (AC), cat, OIE animal case defin. 20200513.7332909
COVID-19 update (166): China (Hong Kong) animal, cat, OIE, resolved 20200508.7314521
COVID-19 update (149): France (IF) animal, cat, owned 20200501.7289409
COVID-19 update (124): USA (NY) animal, cat, lion, OIE 20200423.7259119
COVID-19 update (123): USA (NY) animal, cat, conf. 20200422.7256272
COVID-19 update (113): USA (NY) animal, cat, susp, RFI 20200418.7240811
COVID-19 update (75): China (Hong Kong) animal cat, OIE 20200403.7179945
COVID-19 update (70): China (Hong Kong) animal, cat, pets & stock 20200402.7173286
COVID-19 update (58): Belgium, animal, cat, clinical case, RFI 20200327.7151215
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