



Published Date: 2021-10-27 23:55:12 CEST

Subject: PRO/AH/EDR> COVID-19 update (367): animal, Europe, cat, seroprevalence

Archive Number: 20211027.8699313

CORONAVIRUS DISEASE 2019 UPDATE (367): ANIMAL, EUROPE, CAT, SEROPREVALENCE

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: Wed 27 Oct 2021 [accessed]

Source: Emerging Infectious Diseases [edited]

https://wwwnc.cdc.gov/eid/article/27/12/21-1252_article

Citation: Schulz C, Martina B, Mirolo M, et al. SARS-CoV-2-specific antibodies in domestic cats during 1st COVID-19 wave, Europe. Emerg Infect Dis. 2021 [early release, published 25 Oct 2021]; <https://doi.org/10.3201/eid2712.211252>.

Abstract

We conducted a SARS-CoV-2 antibody seroprevalence study among more than 2000 domestic cats from 4 countries during the 1st coronavirus disease wave in Europe. We found 4.4% seroprevalence using a virus neutralization test and 4.3% using a receptor-binding domain ELISA, demonstrating probable human-to-cat transmission.

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Communicated by:

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[Thanks to Mary Marshall for the above submission.

The paper's conclusions chapter follows (references omitted; available in the source URL):

"During the 1st COVID-19 pandemic wave, reported seroprevalence levels in domestic cats ranged from 0.4% in the Netherlands to 23% among cats in COVID-19-positive households in France. Similar seroprevalence levels in cats and humans in the same areas found by us and others suggest that in the absence of another known source (Appendix Table), SARS-CoV-2 infections in cats are most likely due to human-to-cat contact transmission.

"Most natural SARS-CoV-2 infections of cats appear to run a mild or subclinical course, with respiratory or gastrointestinal clinical

signs reported in confirmed natural infections. Evidence from experimental studies suggests that cats are susceptible to SARS-CoV-2 infection and can maintain the virus within a cat population and spill the infection backward or forward to other species. However, no evidence of cat-to-human transmission, nor of cat-specific mutations or variants of SARS-CoV-2, has been detected thus far. This finding contrasts reports on minks kept in farms, where mink-to-human spillback infections and mink-specific mutations have been reported. Although no evidence currently suggests that domestic cats play a role in the epidemiology of human SARS-CoV-2 infection, clinicians and veterinary practitioners should recommend that SARS-CoV-2-infected persons avoid close contact with their domestic cats and practice the same nonpharmaceutical prevention measures toward cats as they do to prevent human-to-human infection."

Notably, the study addressed serum samples collected for diagnostic purposes unrelated to suspicion of SARS-CoV-2 infection. Samples were from 1136 cats in Germany, 331 in the UK, 333 in Italy, and 360 in Spain. Among 1799 samples with demographic data, cats ranged from 0.1-23 years of age (median and mean age 11 years).

Subscribers are referred to the table "Seroprevalence in humans and cats by selected country during the 1st wave of the COVID-19 pandemic in Europe, 2020" (for the table, please go to the source URL/Downloads/appendix (pdf)). The table also includes data from France and the Netherlands.

It would be interesting to note if the collected demographic data (up to 1799 cats) include details of their respective households/ownerships, which may allow a search for correlation between seropositivity in domestic cats and other elements (e.g., respective family structure, age, accommodation/occupancy, cohabiting cats/other domestic animals, etc.). - Mod.AS

HealthMap/ProMED map of Europe: <https://promedmail.org/promed-post?place=8699313,6010>

See Also

COVID-19 update (187): animal, Uruguay, dog, cat, OIE 20210529.8404030

COVID-19 update (109): animal, Argentina, Italy, cat, dog, OIE 20210323.8262789

COVID-19 update (93): animal, Estonia (HA) cat, OIE 20210310.8239589

COVID-19 update (62): animal, Latvia (RA) cat, OIE 20210212.8187389

COVID-19 update (39): animal, Spain, Switzerland, mink, cat, OIE 20210129.8146532

COVID-19 update (35): animal, South Korea (KN) cat 20210126.8138196

COVID-19 update (22): animal, Russia (LN) St. Petersburg, cat 20210117.8111937

2020

COVID-19 update (552): USA, animal, cat, dog, snow leopard, OIE 20201223.8042405

COVID-19 update (535): Denmark, animal, mink, zoonotic, cat, RFI 20201213.8015149

COVID-19 update (519): Switzerland (ZH) animal, cat, OIE 20201204.7993204

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
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 (177): Netherlands (NB) animal, farmed mink, Spain (CT) cat susp 20200512.7328587
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 (76): China (HU) animal, cat, owned, stray, seropositive 20200403.7179946
COVID-19 update (75): China (Hong Kong) animal cat, OIE 20200403.7179945
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