Detection of SARS-CoV-2 nAbs in cats

SARS-CoV-2 neutralizing serum antibodies in cats: a serological investigation

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It remains unclear which animals were the intermediate host of SARS-CoV-2. Previous studies suggests that SARS-CoV-2 has the same host range as SARS-CoV. Previous report demonstrated that SARS-CoV can infect ferrets and cats (1), implying that they might be also susceptible to SARS-CoV-2.

Zhang *et al,* investigated the infection of SARS-CoV-2 in cats by detecting specific serum antibodies (2). A cohort of serum samples were collected from cats in Wuhan, including 102 sampled after COVID-19 outbreak, and 39 prior to the outbreak. 15 of 102 (14.7%) cat sera collected after the outbreak were positive for the receptor binding domain (RBD) of SARS-CoV-2 by indirect enzyme linked immunosorbent assay (ELISA). Among the positive samples, 11 had SARS-CoV-2 neutralizing antibodies with a titer ranging from 1/20 to 1/1080. No serological cross-reactivity was detected between the SARS-CoV-2 and type I or II feline infectious peritonitis virus (FIPV). The authors suggested that SARS-CoV-2 has infected cat population in Wuhan during the outbreak, implying that this risk could also occur at other outbreak regions. Retrospective investigation confirmed that all of ELISA positive sera were

sampled after the outbreak, suggesting that the infection of cats could be due to the virus transmission from humans to cats. Certainly, it is still needed to be verified via investigating the SARS-CoV-2 infections before this outbreak in a wide range of sampling. A latest report shows that SARS-CoV-2 can transmit between cats via respiratory droplets (3), so, a strong warning and regulations still should be issued to block this potential transmission route.

The authors demonstrated the risk of cats involved in the transmission of SARS-CoV-2 suggesting that more studies are needed to investigate the transmission route of SARS-CoV-2 from humans to cats and pointing out that an immediate action should be implemented to keep in a suitable distance between humans and companion animals such as cats and dogs, and strict hygiene and quarantine measures should also be carried out for these animals.

References

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