

COVID-19

Future trajectories of SARS-CoV-2 in animals

WITHIN the complex and intricate backdrop of the Covid-19 pandemic, the potential role played by animals in the generation of new viral variants of concern (VOC) needs to be considered.

Several domestic and wild mammalian species have been reported to be naturally and/or experimentally susceptible to SARS-CoV-2 infection, thus also offering potentially useful animal models for comparative pathology studies aimed at dissecting the pathogenesis of the various Covid-19 human disease phenotypes.¹

Alongside their well-documented sensitivity to both natural and experimental infection,² domestic cats have also been shown to acquire the 'English' VOC (B.1.1.7) of SARS-CoV-2, as recently reported in a feline patient from the Piedmont region in north-west Italy, to which the 'mutated' virus was most likely transmitted from the Covid-19-affected owners (Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta, unpublished data).

Furthermore, intensively reared mink in the Netherlands and Denmark were shown to acquire SARS-CoV-2 infection from their breeders/keepers and to then 'return' the virus to them in a 'mutated' form (the so-called 'cluster 5') during spring and summer in 2020, well before the first Covid-19 vaccines became available. To the best of my knowledge, mink are thus far the only species – apart from humans – in which SARS-CoV-2 is able, once acquired from a human source, to undergo a series of mutational events, mostly involving the so-called 'receptor-binding domain' of the viral spike protein. These mutations led to a viral isolate ('cluster 5') harbouring a genetic background that was different from the SARS-CoV-2 strain mink originally caught from their breeders/keepers (ie, a 'spillover' event), which they were subsequently able to retransmit back to their breeders/keepers (ie, 'spillback').

Taking the above into account,

should we not consider the possibility of vaccinating all susceptible animals against SARS-CoV-2, with special emphasis on those living in close contact with people and, ultimately, on intensively reared species, such as mink and pigs?

Indeed, as SARS-CoV-2 encounters more and more sensitive (and non-immunised) animal hosts along its way, the possibility that it will continue to mutate – independently from the mass Covid-19 vaccination campaigns currently underway in people – should be taken into account, and we should use a One Health and evidence-based approach to remind us that the health of people, animals and the environment are tightly and indissolubly linked to each other.

Giovanni Di Guardo, retired professor of general pathology and veterinary pathophysiology
Viale Pasteur, 77- 00144 - Rome, Italy
email: gdiuardo@unite.it

References

- 1 Di Guardo G. Animal models and pathogenetic insights to Covid-19. *J Comp Pathol* 2020;179:e1
- 2 Shi J, Wen Z, Zhong G, et al. Susceptibility of ferrets, cats, dogs, and other domesticated animals to SARS-coronavirus 2. *Science* 2020;368:1016–20

EQUINE WELFARE

Volunteers needed for equine clinics

I AM writing on behalf of the British Equine Veterinary Association (BEVA) Trust. The trust is calling for volunteers to help with its popular equine education and welfare clinics that are run in partnership with the British Horse Society. The clinics are set to restart in September 2021 following a 15-month hiatus caused by the Covid-19 pandemic.

The BEVA Trust provides opportunities, support and funding to allow BEVA members to volunteer for projects that enhance equine welfare both locally and globally. With practical support from a number of other equine welfare charities, the clinics provide education, dental care, farriery, worming, microchipping



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and passporting for horses identified as being in need, as well as offering castration if required.

To date, almost 200 BEVA members, together with nurses, students and farriers, have volunteered their time and expertise to help 1307 horses and ponies, and 599 horses have been castrated as part of this valuable initiative.

The BEVA Trust is looking for volunteers for clinics on 16 September 2021 at Clitheroe Auction Market in Lancashire, and on 30 September at Ashford Cattle Market in Kent. Volunteers must be BEVA members and qualified vets or vet nurses (unless attending as a student with a university veterinary surgeon or lecturer). Approximately eight to 10 volunteers are needed for each clinic, to include a mix of equine vets and equine vet nurses.

We will also be running additional clinics later in 2021 and 2022.

To register an interest in volunteering for the BEVA Trust, please contact Leaya Slater by email to: leaya@beva.org.uk

Julian Samuelson, chairman of BEVA Trust
Mulberry House, 31 Market Street, Fordham, Ely, Cambridgeshire CB7 5LQ
email: julian.samuelson@btinternet.com

DEATH NOTICE

Penman On 29 May 2021, Gordon Penman, BSc, MRCVS, of Standerwick, Somerset. Mr Penman qualified from Edinburgh in 1956.

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If you would like to send us a letter or notice, please send it by email to: **vet.letters@bvajournals.com**. We are currently unable to accept letters submitted by post. Letters should not usually exceed **400 words**.