

Camel Sudden Death Syndrome

Outbreak of an Unknown Camel Disease in The Horn of Africa

I.V.Gluecks¹, M.Younan², M.R.Ndanyi³, D.Zaspe², Y.S. Samatar²
P.Wohlsein⁴, S.Pankuweit⁵, M.P.O.Baumann⁶, M.Murithi³, S.Maloo¹, W.Duehnen²

¹Vétérinaires Sans Frontières Suisse, Nairobi, Kenya

²Vétérinaires Sans Frontières Germany, Somalia Program

³Department of Veterinary Services, Kabete, Kenya

⁴University of Veterinary Medicine, Dept. of Pathology, Hanover, Germany

⁵Clinic for Cardiology, Marburg, Germany

⁶International Animal Health, Faculty of Vet. Med., Freie Universitaet Berlin, Germany

In December 2005 unusually high numbers of camel deaths were reported from Afar and Oromia Region of Ethiopia. Similar reports were received from Somalia (2006), South Ethiopia and North Kenya (2007). The syndrome named ‘Camel Sudden Death’ (CSD) mainly affected adult camels, especially lactating and pregnant females, breeding bulls and pack camels. – Investigations were carried out in Ethiopia (2006) and jointly in Somalia and Kenya in 2007. Field investigations using Participatory Epidemiology and data analysis supports the hypothesis that CSD is a new disease entity in camels, as it does not have any traditional disease names in the many local pastoralist languages of the region. Median within herd mortality rates were calculated at 6.8 % and 3.7 % for Kenya and Somalia, respectively. Laboratory findings indicated that Anthrax, other bacteria and parasites commonly found in camels were not involved in CSD. Inflammatory cell responses seen in histology and results from attempted virus isolation carried out in Kenya indicated involvement of a viral agent. Dead camels showed myocarditis, myocardial and sub-epicardial bleeding and left-sided congestive heart failure. Analysis by immunohistology for the detection of inflammatory infiltrates and PCR investigation using primer pair specific for conserved regions of *enterovirus (EV)*, *adenovirus (ADV)*, *cytomegalovirus (CMV)*, *Ebstein Barr virus (EBV)*, *parvovirus B 19 (PVB 19)*, *influenza virus A*, *chlamydia pneumonia* and *Borrelia burgdorferi* failed to identify any causative agent.