Book review — Boekresensie

An update on zoonotic diseases

Coordinated by P Pastoret


This volume of the Revue Scientifique et Technique constitutes another valuable contribution of the Office International des Epizooties (OIE) to global control of animal diseases. As the coordinator has pointed out in the conclusion to the volume, the risk of transmission of diseases from animals to humans is increased by more intensive modern farming practices, globalisation of trade in animal products, and, possibly, global warming, because they upset equilibria. The last decades have seen the emergence of apparently new zoonoses such as new variant Creutzfeldt-Jakob disease, Nipah virus, avian influenza, Ebola virus, and many others. The main focus of the publication is on the newer zoonoses, but an interesting introductory chapter deals with the history of zoonoses. This chapter underlines the problem that, in the absence of accurate knowledge of the aetiology and epidemiology of zoonoses, recommendations for prophylaxis are likely to be wide of the mark.

A chapter on animals and public health emphasises the challenge that zoonotic diseases pose in the already complicated balance that must be achieved between optimum production and globalisation of trade in animal products to ensure food security on one hand and conservation of the environment, biodiversity and animal welfare on the other. The example of cowpox virus is used to illustrate the ability of potentially pathogenic agents to interact with different hosts in different ways. This theme is expanded in a chapter on the emergence of zoonoses when pathogens cross the species barrier, which in humans is promoted by population growth and mobility. Chapters covering the effects of climatic change on arboviral infections and vectors, and the molecular evolution of viruses, which has resulted in the development of RNA viral 'quasispecies', characterised by considerable genomic variation, contribute to our understanding of the apparent unpredictability of zoonotic outbreaks.

Successive chapters deal more extensively with particular zoonoses: Hantavirus infections, haemorrhagic fevers caused by Bunyaviridae and Filoviridae (in particular Rift Valley fever, Marburg and Ebola virus), monkeypox virus, new variant Creutzfeldt-Jakob disease, Lyme disease, cat-scratch disease, Hendra and Nipah virus, West Nile virus, bat lyssavirus, recent developments in influenza virus infections, and Borna disease virus. With the possible exception of the chapter on monkeypox virus, which I found disappointing because it was devoted largely to expressing the author's view that the remaining stocks of smallpox virus should be destroyed, the chapters provided in-depth and highly informative overviews of these topical diseases. Two chapters devoted to bacterial food-borne and parasitic food- and waterborne diseases brought one back to the familiar and provided an interesting update on salmonellosis, campylobacteriosis, Escherichia coli infections, toxoplasmosis, sarcocystosis, giardiosis, cryptosporidiosis, and infection with various flukes, tapeworms and nematodes. After the preceding chapters, reading about agents that are destroyed by thorough boiling and cooking offers some hope of survival in an increasingly threatening world. A chapter on the possible dangers of xenotransplantation puts the reader firmly back in the present/future, and presents a lucid exposition of the possible dangers, mainly in the domain of potential viral infection, and how such agents might be detected and avoided.

The final chapters deal with the evolution of zoonoses and the measures that may be applied to limit their development, and the public health implications of zoonoses.

This publication is essential reading for all veterinarians who are involved in the control of animal diseases in the interests of public health. It contains valuable information for anybody who has any contact with animals, whether for food production, companionship, or recreation, or simply by accident while indulging in pastimes such as hiking and touring. It is readable and generally well-written, with relatively few editorial lapses: examples are the incorrect use of data as a singular subject in some chapters, and in particular the chapter on Borna disease, which has a strongly non-English flavour and a photograph of mice labelled as 'litter maids'. All except two of the chapters (the history of zoonoses, which is in French, and the chapter on quasispecies, in Spanish) are in English, with French and Spanish summaries. Several of the chapters contain beautifully reproduced and informative illustrations, several in colour. I unreservedly recommend this publication on a subject that impinges increasingly upon the daily lives of human beings everywhere.

M-L Penrith
ARC - Onderstepoort Veterinary Institute
Pretoria
