**Human epidemiology of rabies in South Africa.**
**Abstract of Presentation at Rabies seminar 22 September 2009**

Rabies was well-known in ancient times. The disease is first mentioned in the Babylonian Eshnuna code about 2300 BC. (Latin : *rabere* - rave / *rabidus* – madness; Sanskrit : *rabdas* – violence, Greek: *lyssa* – madness.)
Wound cauterization was the usual treatment for bites from 1st – 19th Century AD[1]
Potted history[2]
1804 Zinke described saliva transmission
1879 Galtier transmission to Rabbits.
1885 Louis Pasteur & Emile Roux gave post exposure vaccine to nine year old Joseph Meister (1876 – 1940)
1904 Remlinger demonstrated a filterable agent was involved.
1904 Negri identified inclusion bodies in brains of rabid animals.
1911 Semple refined the Pasteur vaccine

Rabies has a world wide distribution. 55 000 people die annually (31 000 in Asia & 24 000 in Africa.) Most from a bite from an infected dog, except in South America were wild animals esp bats are responsible, due to good control measures in dogs. Between 30% to 60% deaths occur in small children and young teenagers. About 14 million courses of post exposure prophylactic vaccine (PEP) are sold annually[3]

Rabies-free jurisdictions, as of January 2006: Australia, New Zealand, Singapore, Fiji, Papua New Guinea, parts of Indonesian, Japan, Taiwan, Hong Kong, Mauritius, Seychelles, Cape Verde, Germany, Guam, Hawaii, the United Kingdom, the Republic of Ireland, Norway, Sweden, Finland, Iceland, Sardinia and Corsica.[2]

Dog rabies first noted in southern Africa in 1947 in northern Namibia and spread through Botswana, Zimbabwe, Limpopo province, and Mozambique; eventually reaching Kwazulu in the early 1960s were it was eradicated through dog control by about 1968. Re-introduced to Kwazulu in 1976 and has spread slowly down reaching the Eastern Cape in about 1987[4].

515 cases of rabies have been notified in humans in SA since 1928. (344 from dog contact, 29 from Yellow mongooses, 11 from genets and other wild cats, 15 from domestic cats, 2 from bats, and one each from a jackal, an ox, a caracal, a honey badger and a Chacma baboon; 108 from unknown sources[5]

Confirmed cases of human rabies in 2009 so far: 9, in 2008: 16, 2007: 14, 2006: 32, and 2005: 7. In 2006, 23 of the 32 cases were reported in Limpopo probably due to dogs accompanying migrants from Zimbabwe. While the number of human cases are small the disease is almost invariably fatal and causes significant stock loss.

The control of rabies in jackals and mongooses in South Africa is possible using oral bating as in South America but may be a longer term objective The control of dog rabies through veterinary vaccination campaigns and control of strays has in the past been eradicated the disease in large areas of the country and being again been undertaken by the Veterinary Service of the Dept of Agriculture.

The disease illustrates very clearly the intimate link between animal and human health. The elimination of dog rabies is feasible in South Africa and is a common responsibility of those involved in human and animal health[6]

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[1] Bleck TP and Rupprecht CE in Chp 160 Rhaddoviruses in Mandell Infectious Diseases 6th ed 2005
[2] Rabies - Wikipedia
[3] WHO fact sheet no 99 December 2008
[4] Swanepoel R. Rabies: in -Infectious diseases of livestock …southern Africa Ed Coetzer JAW et al 1993
[5] Weyer J National Institute for Infectious Diseases personal communication
[6] Rupprecht CE Can rabies be eradicated? Dev Biol (Basel). 2008;131:95-121

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