**HISTORICAL NOTE**

**Louis Pasteur and Rabies: a brief note**

The almost universal fatality in victims of untreated human rabies surrounds the disease with understandable terror. The word comes from the Latin *rabere* to rage or rave. It was known as canine madness, or hydrophobia. Calmette demonstrated paralysis or a vicious excitability and in man fatal encephalitis with throat spasms and swallowing.

A variety of meningoencephalitis rabies presents as a "hydrophobic" or "spastic" form and a "tranquil" or "paralytic" (rabies without hydrophobia) form, the latter with an ascending paralysis of Landry type, terminating in bulbar, respiratory, and encephalitic symptoms. The history of dog bite is often unclear if not treated. Symptoms usually develop, however, 10 to 50 days after exposure; death ensues within about 10 days. In Great Britain rigid quarantine laws on the importation of all livestock led to its virtual eradication.

In 1885, he became professor of chemistry at the University of Lyon, and was elected as a member of the French Academy of Medicine, a singular honour. The University of Bonn conferred the MD, honoris causa in 1868, which he returned in 1871. In his own time, Pasteur achieved great celebrity culminating in a public subscription of two and a half million francs that made feasible the creation of the Pasteur Institut, in Paris. Despite a stroke at the age of 46, he continued researches undaunted until 1888. He died on 28 September 1895 at Garches, Seine-et-Oise.

On Monday 6 July 1885, Joseph Meister, aged nine, was brought to him from Alcauc having been bitten by a rabid dog on 4 July. With some reluctance, Pasteur was persuaded by Drs Vulpian and Grancher of the Académie de Médecine to give Dr Grancher the emulsion from the cord of a rabid dog that had died of rabies on 21 June, and had been kept in dry air for 15 days. The child was given 13 further inoculations in 10 days with portions of the cord that were progressively fresher (more virulent), until after three months and three days he announced that the child's life was now out of danger and his health appeared excellent. On 20 October, he successfully treated another patient infected by a mad dog six days earlier. By 1886, he had treated 350 patients from all over Europe, Russia, and America.

This is considered his greatest triumph. Microscopic diagnosis was later made possible by Aldechi Negri's discovery of the Negri body (1879–1884). This did not produce the disease but interestingly, protected the animals from the effects of a further inoculation.

His work aroused the interest of Louis Pasteur who with C Chamberland, PPE Roux, and T Thullier wrote the first of their papers in 1881, heralding the beginning of Pasteur's studies on rabies. In further work, they showed indications of the rabies virus in the blood.

"It first lodges and multiplies in the spinal cord and brain." He reported. When passed from dog to monkey and then from monkey to monkey, the virulence diminishes with each transmission, and then if inoculated back into dogs, rabbits, or guinea pigs, it remains attenuated. However, virulence was serially increased when passed from rabbit to rabbit, or from guinea pig to guinea pig. He was thus able to produce the virus in various degrees of virulence. Sections of rabid spinal cord from a highly virulent strain after serial passage through many rabbits were suspended in dry air; the virulence gradually diminished with time. Thus, Pasteur produced an attenuated vaccine, and successfully immunised 50 inoculated dogs.

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**References**

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